

A Preliminary Report on the Condition of the Teeth Resulting from Extirpation of the Contents of the Mandibular Canal in a Dog.

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From a morphological point of view, the teeth may well be looked upon as the most interesting structures of the oral cavity. It has been well said by O. Hertwig that "their development in man and mammals is accomplished in a manner neither simple nor easily intelligible." In the lower vertebrates on the contrary, it is comparatively simple.

In mammals we find the teeth attached to definite portions of the maxillæ and mandible, where they bound the entrance to the alimentary canal; in lower vertebrates, on the other hand, the distribution of the teeth is extremely wide.

In many species we find the teeth in immense numbers, as palatal, lingual and pharyngeal teeth covering the roof and floor of the oral cavity and the inner surfaces of the branchial arches. We also find them in selachions, distributed over the whole surface of the skin in close-set rows forming a strong and flexible coat of mail.

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The teeth are simply ossified papillæ of the skin and mucous membrane, upon the contiguous surfaces of which they are formed, and in selachions this fact is shown in a most convincing manner in the development of the dermal teeth.



Fig. 1. Removal of the contents of the mandibular canal.

It has long been known that the skin and bone are relatively passive structures, yet both are intimately related to more or less active structures; the former to the pilomotor muscles and glands in the skin; the latter to the formation of erythroblasts in the red marrow of bone, the so-called hematopoiesis.

F. H. Pike, C. G. Guthrie and G. N. Stewart, in their studies on "Resuscitation," say that: "Bone may be regarded as a purely passive structure. So far as our experimental evidence goes, it seems to be almost unaffected by any agents which do not produce irrevocable loss of bodily functions. The tests for the functional activity of connective tissue

in general are so ambiguous that we do not consider it profitable to discuss them here, but we have observed no symptoms in our animals which would lead us to believe that these tissues were very much affected. It is commonly stated by surgeons that the epithelial cells of the skin will retain their vitality for one or two weeks, if left in situ and kept on ice

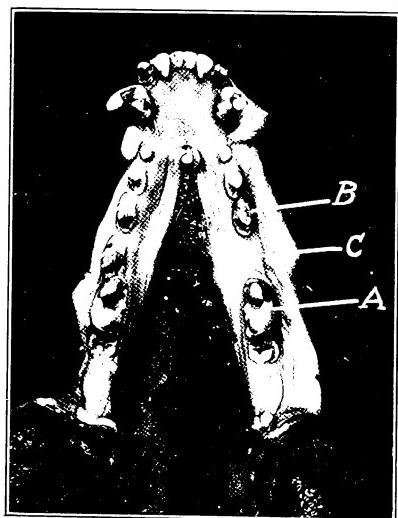


FIG. 2.

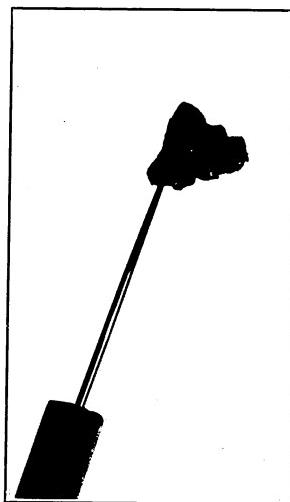


FIG. 3.

Fig. 2. Mandible of the dog. Note that the teeth are quite as well developed upon the right as on the left side. A tooth is absent on the right side at C. This was removed during the operation and is seen in Fig. 3.

Fig. 3. Partially developed tooth removed from tooth follicle during operation, absent at C, Fig. 2.

after amputation of a limb, and will grow where placed on a skin wound. We have never seen a case of permanent death of the integument of the head in animals subjected to cerebral anemia."

The tooth is originally a dermal structure and a part of the exoskeleton. The epithelial portion, the enamel, is probably dead; therefore, no metabolism takes place within it, no nutrition is necessary for it, at least in the fully developed tooth; not so, however, in the developing one. The connective tissue part of the tooth is largely bone or structure very similar to bone, and finally the bone of most maxillæ and mandibles is not intimately related with even an active marrow, such as the erythrocyte-forming marrow (red marrow), but contains yellow marrow.

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The pictures of the specimens herewith shown were obtained from one of three dogs which came from the same litter. Two were experimented upon, the third was used as a control. One of the animals experimented upon still lives.

The third dog which, post-mortem furnished our specimens, was born March 25, 1908, and was operated upon July 29, 1908. Forty-five



FIG. 4.

Fig. 4. Photomicrograph of longitudinal section of a molar tooth on the right side seen in Fig. 2, at A, showing the vascularity of pulp tissue.

minutes before the operation he was given 25 minimis of morphine sulphate (Magendie). Ether was administered during the operation. The incision, six cm. in length, was made through the mucous membrane and periosteum along the lower margin of the side of the mandible. By the use of a drill and chisel the mandibular canal was exposed and as much of the contents of the canal withdrawn as was possible (see Fig. 1). After that a wire, about No. 16, was passed through the canal up to (and possibly further than) a little beyond the angle of the jaw, and finally we thoroughly scraped the canal with a Volkmann spoon. One of the developing teeth was removed (see Fig. 3), and the wound was sewed up with catgut sutures.

The dog was up and about two hours after the operation, apparently suffered no pain, and the next morning appeared well, except that there

was some swelling of the jaw on the side operated upon. The dog was killed on December 23, 1908.

The result of our experiment is obvious on examination of our photographs and photomicrographs. Our object is, tersely:

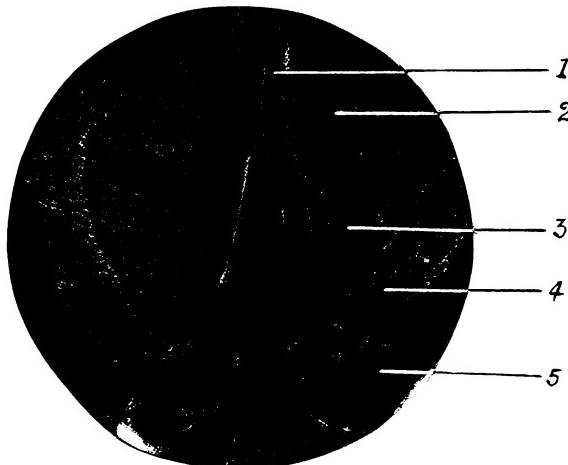


FIG. 5.

Fig. 5. Photomicrograph of a longitudinal section of the root of another molar seen at B, Fig. 2. It shows the root canal (1) dividing into four branches, dentin (2), cementum (3), pericementum (4) with Sharpey's fibers and blood vessels. The wall of the alveolus is shown at 5.

(1) To focus, two points of view on the above structures, the morphological and the physiological, viz., the ontogeny of structure and ontogeny of function, by noting whether interference with blood, vascular and nerve supply will affect in any way the growth, development and organization of the teeth.

(2) To show not what the teeth are nor whence they are, but to narrow down the tract of those unexplained conditions, vascular, nervous and lymphatic, which not only assist to convey the teeth to maturity, but thereafter maintain them.

(3) To attempt to find some satisfactory knowledge regarding the nutrition, growth, development and organization of the teeth which rests on an accurate experimental basis.

(4) To show that the tooth, a part of the ekoskeleton, like the endo-



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skeleton bone, may be regarded as a purely passive structure and that if its blood vascular and nervous supply is cut off even during its early stages of development, before it has erupted, it will grow and develop the same as the corresponding tooth on the opposite side of the jaw where no damage had been done.

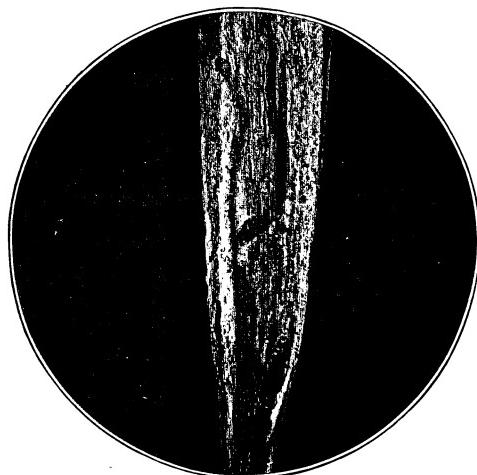


FIG. 6.

Fig. 6 A longitudinal section of the pulp dentin, cementum and pericementum of the same tooth as seen in Fig. 4.

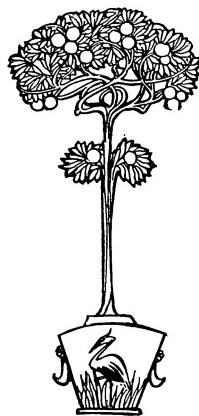
(5) To show, therefore, that in the case of the mandible at least, the teeth are nourished by some collateral circulation after the destruction of the contents of the mandibular canal has taken place, and that they obtain their nourishment from the lymph or small blood supply, until a good blood supply is established.

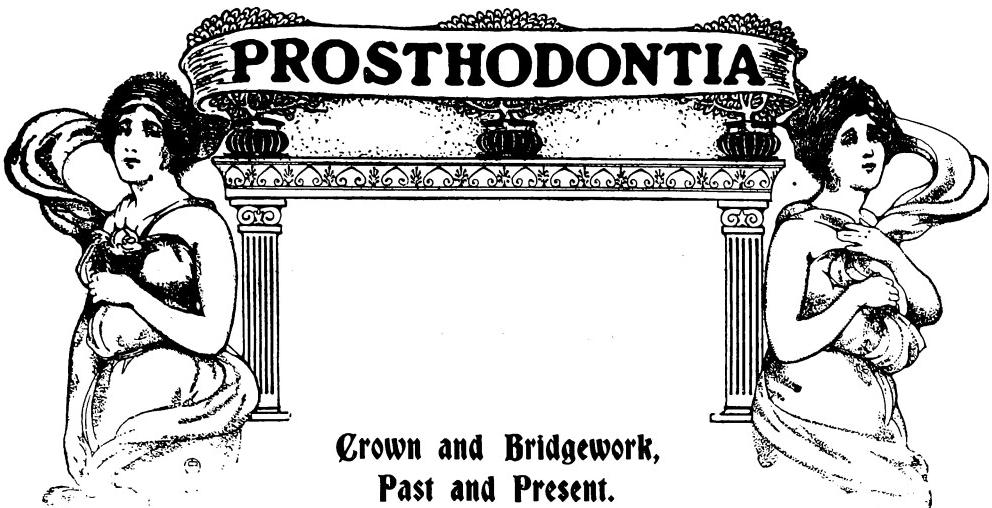
The foregoing experiment has its practical application in cases of orthodontia, and in all surgical procedures in and about the mandible. The experiment proves that it is perfectly possible to subject the developing teeth to sudden changes in their vascular supply; in fact, probably cut it off entirely by way of the inferior dental artery and at any rate to cut off the nerve supply. In our experiment the teeth underwent a normal course of development and five months later appeared normal; and

EXCLUSIVE CONTRIBUTIONS

on microscopic examination showed an apparently normal tooth structure, and that the pulp of the tooth was alive—in the sense that it contained numerous blood vessels and capillaries filled with blood.

The experiment, the preparation of the specimens and taking the photographs and photomicrographs were done in the laboratory for histology and physiology at the New York College of Dentistry. I am indebted to Dr. John L. Peters for his assistance in the same.





Crown and Bridgework, Past and Present.

By F. A. PEESO, D.D.S., Philadelphia, Pa.

Read before the Second District Dental Society, December, 1909.

There is very little of the bridgework of the early days in the mouths of the living at the present time, and by the early days I mean not the bridgework of antiquity, but that of a generation ago.

In making comparisons of the work done then and the work of to-day, we have to depend upon our remembrance and the recorded descriptions of these operations as performed at that time, and the old crowns and bridges which have dropped out, or have been removed, many of them together with the teeth or roots which served as abutments, and preserved as curiosities of the early stages of bridgework.

At the beginning of these operations the work was done largely in a haphazard way; that is, with little or no understanding of the principles involved, but with the sole idea of giving to the patient something superior to the partial dentures which had been in use up to that time, and restoring the masticatory function to as nearly a normal condition as it was possible to do.

This idea had been developing in the brains of some of our greatest thinkers in the profession for many years before it finally took definite form.

We of to-day see the results of these earlier efforts expressed in the recognition of crown and bridgework as one of the most important factors in the practice of dentistry.

Bridgework at the beginning was very crude, and in the majority of cases very short-lived, but in a very few instances some of the bridges constructed did service for a number of years.

In looking back and studying these old specimens, it seems incredible that any mouths could have tolerated conditions which must have resulted

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from the presence of some of these monstrosities, and we wonder that bridgework as an art survived at all. That it did survive was due wholly to the unceasing efforts of a few earnest workers who had visions of its great possibilities, and who were willing to, and did, devote a large portion of their time and energy to the careful study of the principles involved, the results of which we of a later date have been able to take advantage of, and we are all striving to approach the ideal which we are so far from at the present time, but which we hope and believe our successors in future generations will succeed in attaining. To them our present best efforts may possibly seem as crude, or even more so than those of our predecessors do to us now.

While crown and bridgework of the earlier days was faulty, it was not by any means due altogether to poor workmanship, but rather to the lack of understanding of underlying fundamental principles.

Indeed, many of the earlier workers along these lines were very skilful in mechanical procedures, and while much of their work may at the present time look far from perfect, it was due largely to a difference in technique and not to a lack of mechanical ability. Many of these old specimens compare favorably with those of to-day.

Indeed, judged from a mechanical standpoint, both as to workmanship and finish, some of them will put to shame much of the work done at the present time. As stated before, the failures of the earlier operations were almost wholly due to lack of understanding of underlying principles and factors which make for or against bridgework.

Prominent among these factors is root preparation. In the majority of these first cases, or we might say in practically all of them, there was no attempt made at scientific preparation of the mouth for the reception of the work.

At times the abutment teeth were not trimmed at all, even the cusps remaining intact, the bridge being forced to place and the bite being opened to the thickness of the gold used in making the cusps.

At other times a little of the cusps was ground away to allow for the thickness of the metal, but no further preparation was given to the tooth. A rough impression of the parts was taken, and a model prepared on which the bridge was constructed. The bridge was then forced into place and cemented, with the edges of the band perhaps projecting below and cutting into the gum. No attention was given to the nature and extent of the mechanical stress which the bridge might have to endure, the articulation, or any of the points which are vital to the life and well-being of the bridge. This lack of preparation of itself would have been enough to bring about its destruction, but other causes contributed

Root Preparation.



to hasten its downfall, one of which was the articulation. Little or no attention was given to this vital point, and many times a bridge with its abutments, which otherwise might have been of service for several years, was literally pounded to pieces in a short time.

Loosened teeth, many of them nearly ready to fall out, were used as abutments, often with the idea that the bridgework, especially if connected with some sound teeth, would strengthen and steady the affected teeth and perhaps effect a cure.

The crowning of vital teeth, too, was one of the causes of numerous failures, especially if the teeth had been denuded of enamel.

In many operations this resulted in the death of the pulp and subsequent alveolar abscess, or from the overstimulation of the pulp, an excessive deposition of dentine, pulp stones and kindred troubles.

All too frequently the work was done for no other purpose than that of getting a large fee from the patient, the operator knowing at the time that the work would be of absolutely no benefit, but rather an injury to his patient; and, sad to say, such things are done even unto this day.

No thought was given to the relative strength or carrying capacity of the different teeth, or the number, position or condition of those serving as abutments.

This is a short résumé of the early history of bridgework. Is it any wonder that it was looked upon with distrust and aversion by many?

**Modern
Bridgework.** Coming down to the present time, considering the opportunities which the present generation has had, taken together with the experience of those who have gone before, and also considering the number of those who are doing the work now, as compared with the number of those who did it in the past, it is a question as to whether we have any cause to flatter ourselves about the progress we have made, and whether, taken as a whole, the work of the present is much of an improvement over that of a quarter of a century ago. Certainly a very large percentage of the work done at the present day is no whit better, and much of it is worse than that done twenty-five years ago, and does far more harm than good.

This may seem to be a very strong statement, but I think that the facts will bear me out. I do not wish to be understood as saying that there is not a great deal of excellent work being done now, for there is, and by far better work than has ever been done before, but still a great deal of it is not done understandingly, and not enough care and study are given to master thoroughly the underlying principles.

We are all of us in too much of a hurry, and while we do not intend



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to do so, and would resent the slightest imputation that we would slight our work in the least, I am afraid that at times we do it unconsciously.

In the matter of root preparation, we all of us fall short at times. How many times where we find it necessary to remove a crown or bridge, whether the work be our own or of another's making, do we discover that the teeth or roots have been properly prepared so that the bands will hug the neck tightly? I think you will all agree with me that they are very few. If they are of our preparing we, perhaps, think that they may be a little better than those prepared by some one else, but at the same time we feel a sort of a sneaking satisfaction that they did not fall into other hands than ours.

I do not think that one of us ever put in a piece of bridgework that he was perfectly satisfied with, and did not feel that he could greatly improve from the foundation up if he could make it over.

If he did make it over, he would still see new flaws, and feel the same way about it as about the first. Of course, this is but natural. We all of us constantly fall short of the achievement of our ideals, and this, broadly speaking, is as it should be, for as Browning very clearly puts the case, "A man's reach must be beyond his grasp, or what's heaven for?"

**Crowns Over
Vital Pulp.** As to the crowning of teeth with vital pulps, I think there has been a change from the early days when it was considered almost a crime to destroy the pulp, if there was any possible way of avoiding it. When this was so in the majority of cases it would have been impossible to do the necessary amount of trimming for the proper fitting of the band, but to-day it is generally conceded that the pulp is a formative organ, and when it has performed its function it is no longer necessary to the life and health of the tooth. Still, of late years, many teeth have been crowned, and are still being crowned, with the pulp remaining vital; and we frequently have the same trouble following as in days past.

**Causes of
Failure.** Malocclusion was another cause of former failures which obtains to-day to a great extent, the bridge being articulated, or rather not articulated in such a manner that it is impossible to masticate without forcing the teeth out of their normal position with every movement of the jaws, with the result that not only are the bridge abutments loosened within a short time, but the occluding teeth as well are injured and perhaps lost by reason of the abnormal stress put upon them.

Another cause of failures at the present time, as in the past, is the imperfect treatment and filling of the roots. The thorough cleansing of the canals and their perfect filling is absolutely essential if we expect our work to stand.



The opening of the canals in some of the molars is frequently a long and tedious operation, and is too often slighted for this reason, but we must give the time necessary to do the work perfectly.

I think that in this particular part of the preparation there is more need for conscientious work than there is in any other part of the work. The roots should be, if anything, more carefully treated than for any other purpose, owing to the unnatural conditions under which they will serve, and the extra amount of work which they will be called upon to do. Every particle of decay must be removed, as the decay of a tooth may proceed very rapidly under a crown, all unknown until the tooth may be ruined. But this careful preparation is not always given and, sad to say, many a gold crown, like charity, may cover a multitude of evils.

Another thing, which we at the present time consider, is the relative strength of the different teeth, and the degree of stress to which a given tooth may be safely subjected is an important factor.

I will mention one other frequent cause of trouble, both in the past and at the present, and that is the light shell crowns which are so often used as abutment caps. These shells are very thin, and, as a general thing, the cusps are but lightly reinforced with solder.

The cusps are easily worn through, or may crack in the fissures where there is no solder, allowing the moisture to enter, with the result that the tooth may be entirely ruined before it is discovered that there is anything the matter with it.

To sum up the comparison of past and present bridgework, it seems to me that there is not so much difference between the work of the past and that of to-day as we would naturally expect to find.

As a matter of fact, in comparing the general output of bridgework, as we see it to-day with that of the past, there is not that marked difference in its character that we would deserve. It is regrettable that this is so, for in view of the tremendous advances which have been made in our understanding of the technique of root canal treatment, and of the physiology and pathology of the dental pulp, and the corresponding development of our knowledge of the various technical procedures involved in the scientific construction of bridgework, we should have so improved the character and efficiency of the average bridgework as we now see it, as to have made it beyond all comparison better than the bridgework of the past. In order that the result may be yet accomplished by the means already at our command, it is necessary that we give earnest attention not only to the underlying principles upon which all first-class bridgework is founded, but also sympathetic and careful attention to the infinite number of minor details, both technical and artistic, which are collectively necessary to the attainment of excellence in this as in all things that are worth doing well.



ORTHODONTIA

Malocclusion from the Dentist's Standpoint.

By DR. E. E. HALL, Columbus, Ohio.

Read before the American Society of Orthodontists.

Malocclusion, as studied by the specialist, is viewed from an entirely different standpoint from that from which the dentist looks at it.

Whereas, the specialist devotes his attention to the study of the diagnosis, classification and treatment, especially of the cases of youth, the average dentist, not having grasped the principles of diagnosis, is still looking through a glass darkly, as it were, at cases of malocclusion presenting, with the result that he misses malocclusion in the children's mouths, from a lack of knowledge of what to look for, and the cases which he treats are usually those of adults.

The theory of non-extraction has arisen before the practice of extraction has been buried as it should be under the sod of error and false teaching.

Hence, the older dentists daily pass in review in the adult mouths the results of the extraction of first molars and other valuable teeth in the mouths of their earlier patients. Their chickens have come home to roost, as the saying goes, and to those that have had their eyes opened to their error in the treatment of malocclusion by extraction, the toothless spectre of their earlier mistakes haunts even their waking hours.

Now the progressive trend of dentistry has been along conservative lines, it is true, but it takes many years for the average dentist to gain the theory and practice of conservation of the dental organs which the present-day graduate starts out with when he leaves his Alma Mater.

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Also, in manipulative skill, the average dentist is undoubtedly clever, and for years he has been patting himself on the back and posing as a member of a progressive profession, blissfully ignorant that the train of progress on which he supposed he was traveling had switched his coach on to the siding of "Lost Opportunity," which simply implies that he has been unable to keep up with all the advancements in dentistry, and especially with those in orthodontia.

The development, then, of the science of orthodontia has brought a

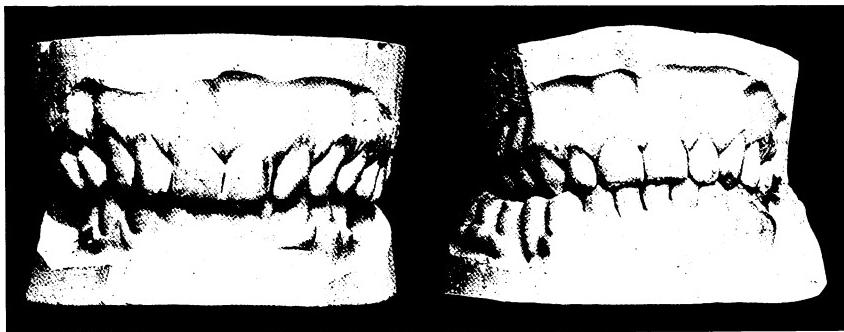


FIG. 1.

FIG. 2.

new era to dentistry, in the knowledge of the value of the individual teeth of both deciduous and permanent sets, and the danger of the lack of their conservation. In other words, the greatest insurance for the preservation of the teeth is the preservation of a normal occlusion.

Also, this new era has shown the dependence of the dentist on the orthodontist and the wisdom of referring the cases of malocclusion to him.

If the dentist does his duty in these respects, the younger generation will not become the specters of his old age, grinning at him with reformed dental arches and distorted mouths, but, on the other hand, if he does his full duty by his patients as before mentioned, he may confidently expect to be ministered unto his dotage by such visions of beauty as surpass the imagination.

But to show you that the dentist has not yet been able to fully appreciate the benefits of this new era in dentistry, in which conservation of the dental organs is the watchword, let me present a few cases (which come from the other man's practice) that will support my arguments.

Fig. 1 illustrates a case of malocclusion which is somewhat typical

of the loss of the lower first molars, exhibiting a deep overbite of the incisors from the early extraction of these teeth.

Fig. 2 shows the inharmony in the arches from the extraction of upper first molars and lower left first molar, resulting in a lingual occlusion of the upper arch on the right side and a crippled occlusion on the left side.

This patient as a child was assured by the dentist after he had ex-

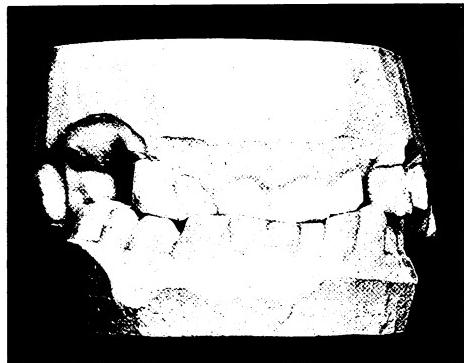


FIG. 3.

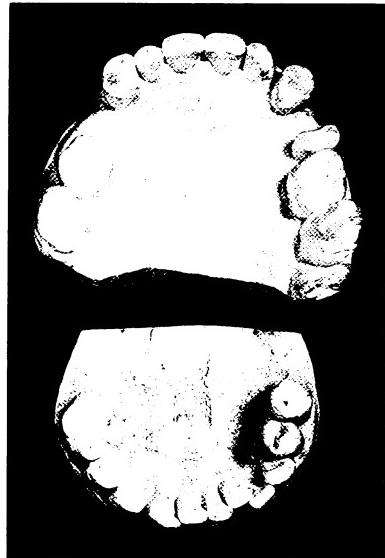


FIG. 4.

tracted the first molars, that the second molars would in time move forward and entirely close the space.

Fig. 3 is a malocclusion caused by the extraction of five lower molars, three upper bicuspids and one upper molar. In this case it will be noted that the incisors remaining had to do the service of the lost molars, and the bicuspids have been worn down so that their incisal edges have become broad grinding surfaces; Nature's only means of compensation.

The occlusal views of the upper and lower casts of this case in Fig. 4 show the broad facets upon the incisors more clearly, as well as the changes in the arches due to the extractions.

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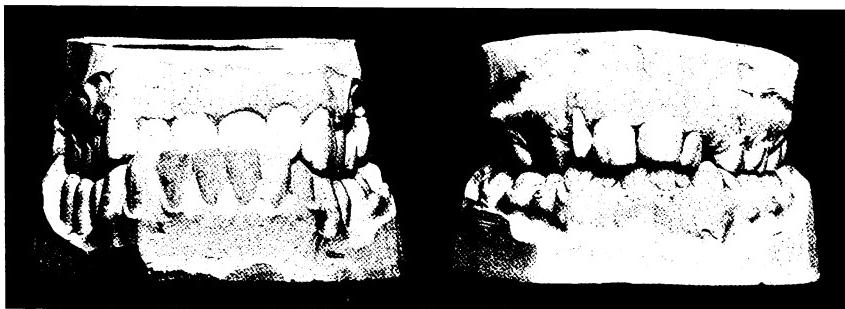


FIG. 5.

FIG. 6.

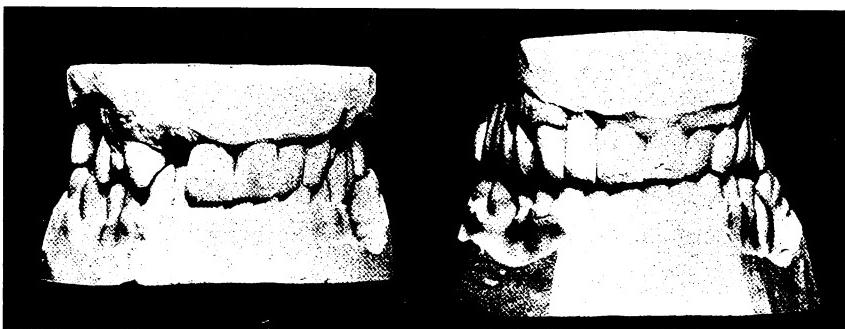


FIG. 7.

FIG. 8.

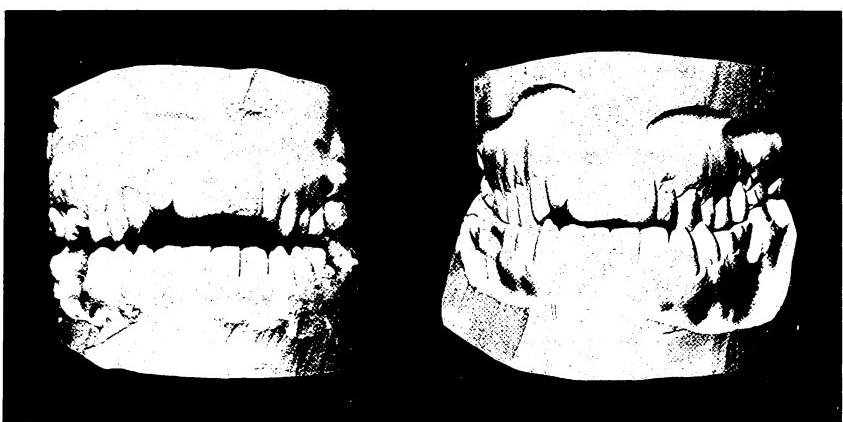


FIG. 9.

FIG. 10.

Fig. 5 illustrates a malocclusion, which three bridges and five porcelain crowns failed to remedy, wherein a previous visit to the orthodontists would have secured a nearer approach to the normal in occlusion in a mouth badly mutilated from extraction.

Fig. 6 exhibits the result in a case of extraction of cuspids for the purpose of "regulation." As it was a simple class I (Angle) case, the loss of these teeth under any circumstances would be inexcusable by the orthodontist.

Fig. 7 represents the occluded teeth of a patient who may really be said to have been suffering from a malocclusion. The lower incisors were biting into the upper gums, and pyorrhea was much in evidence. It is no wonder that he had a history of intestinal disorders, indigestion and pyorrhea after the loss of so many teeth and with such a malocclusion.

Fig. 8 represents the improvement in the conditions after bridge-work and treatment of the pyorrhea, which resulted in improvement of the general health.

Fig. 9 exhibits an "open-bite" case in which the only two points of contact between upper and lower arches are the occluding cusps of the upper and lower second molars on each side. This case was treated by the removal of the pulps of the upper and lower second bicuspids and second molars, the teeth being shortened by grinding until occlusion of the anterior teeth was obtained. The result shown in Fig. 10 enabled the patient to chew his food and he gained twenty-six pounds in three months after the treatment. It will be seen, however, that the result is still a malocclusion. In proper sequence, this patient should have been referred to the rhinologist for removal of adenoids, to the orthodontist for correction of malocclusion at an early age, and then to the dentist for dental services, if needed.

In view of these serious malocclusions, some of them occurring largely as a result of needless extraction of teeth, it is evident that the education of the dentist along the lines of the orthodontist's work is necessary before the laity in general can be properly informed of the great benefits accruing from a correct diagnosis of malocclusion, and especially from early treatment of incipient malocclusions, as well as from an intelligent understanding of the relations between naso-pharyngeal troubles and deformed dental arches.

Therefore, it is my earnest hope that the American Society of Orthodontists will consider this question of the education of the dentist at least in the first principles of orthodontia.

Just how this may be done, I cannot say, but already through your society papers, and as a result of your treated cases being under the ob-



servation of the family dentist, much along the line of education in orthodontic principles has been disseminated.

In conclusion, I will say that when the dentist appreciates fully the idea of normal occlusion, the integral value of the individual teeth and the hindrances to the natural and normal development of the dental arches, then, indeed, will the era of dental conservation be seriously begun and the field of the specialist will be firmly established because of its distinct need and service to humanity.

Discussion of Dr. Hall's Paper.

Mr. President and Gentlemen:—I have been very much interested in this paper because of the

Dr. Young. fact that it has been presented by a man not a member of our Society, and one who is not devoting special attention to the correction of malocclusion. I think you will all agree with me that Dr. Hall has been paying attention to malocclusion, although he is not treating malocclusion as we do, but rather from the prosthetic standpoint. I think his paper can be taken as a very good proof that the rank and file of the dental profession are not as familiar with the occlusion of the teeth as they should be. If that were not the case Dr. Hall would not have such models to present to us as he has shown to-day. It seems a pity that educated people, and people with means, should be allowed to grow to adult age with their teeth in the condition of the man whom the Doctor said was a banker, and his father before him a banker. There was a man who certainly did not have any way of masticating his food. It all goes to prove that the majority of men in the dental profession are simply looking for cavities, and are stoppers of holes, as a rule. Dr. Hall is an exception, and he deserves a great deal of credit for calling his patients' attention to the necessity for doing something in these cases. There has been a feeling for many years that it is not advisable to insert a bridge for one tooth. I was criticised severely for advocating the removal of the enamel of a molar and bicuspid to supply a lost lower molar—not by the patient, but by the dental profession. They thought this tooth was not of sufficient consequence to warrant the grinding down of two comparatively sound teeth to put in such a bridge; but when you realize what happens to the remaining teeth, and how little occlusion the patient has in a few years on the side where the lower molar is missing, you must agree with Dr.



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Hall that it is very advisable to do this very thing. At the present time, since the introduction of cast gold inlays, it is not necessary to put full caps on these teeth.

Very few general practitioners are advocating the insertion of a single molar tooth for their patients. They think they do the patient good service to let them go. I think they would soon abandon that idea if they would take accurate impressions, and make casts of these cases and study them from year to year, and thus find out what is occurring in such mouths.

The case of the open bite, or infra-occlusion in the anterior part of the mouth (Fig. 9), would seem to prove that there is sometimes an over-development in the bicuspid and molar region, because he showed conclusively by the second picture (Fig. 10) that he had shortened the molar teeth and brought the anterior teeth pretty close together.

Dr. Hall. They were together.

Dr. Young. You simply shortened the posterior teeth?

Dr. Hall. Yes.

Dr. Young. That proves that there may be a constant elongation of the molars and bicuspids, due to sleeping with the mouth open. I think that a point worthy of serious consideration.

I want to say just a word. The essayist has said one thing that might be used as a slogan by dentists. He said that in the preservation of the human teeth the first thing to be considered is normal occlusion, and the second, prophylaxis. That ought to be placed on the fence-posts and bill-boards all over the country, so that people could see it.

The open bite, I believe, is due to nasal stenosis, because it has a tendency to allow the mandible to develop into an obtuse angle. In examining a large number of cases of malocclusion, where the anterior teeth were found to be in infra-occlusion, the mandible usually had developed into the shape of an obtuse angle, and the patient, in each case, gave a history of some form of nasal stenosis. Dr. Case brought this out several years ago, and has illustrated it in his text-book.

The failure of the mandible to develop normally is usually due to gravity and inequality of muscular action. To correct this deformity in pronounced cases, it would be necessary to resort to surgical procedure.

I think it is interesting for us to note the effect of a real study of occlusion upon a man who has been brought into that study through his work as Dr. Hall has, and it should be a source of gratification to consider in



the light of what he has shown on the screen (cases which are familiar examples) of the conditions that we are really preventing. I felt, while listening to his paper and thinking of the models, that it was really a source of a great deal of gratification that there are some people, of the future generation at least, that would be in better condition than these.

I know that Dr. Hall has been very serious in his consideration of such problems, and has been striving to do the best he can for his people, but his pictures show really how far short are the ends which may be accomplished without the benefit of orthodontic treatment.

I was much interested in the whole subject, and would second what Dr. Young said about the restoration of single teeth. I have had a number of struggles with dentists in regard to that very question—the substitution of a single tooth in the mouth. I do not question that it is because those dentists have not studied the occlusion of the teeth, and do not realize the injury that the loss of a single tooth may do to the mouth.

I think we should be grateful to Dr. Hall that a member of the profession outside the ranks of the orthodontia specialists should show such an appreciation of the work of the American Society of Orthodontists.

I am a very good example of a man who is

Dr. Wm. C. Fisher. not an orthodontist, but who has come a long distance to learn what you gentlemen are doing, and why; also, what you would have the dentists do. I have taken, in recent years, a great interest in orthodontia, and to-day make models of a great number of my cases to see if they should be referred to the orthodontist. I have only done this within the past eighteen months. Before then I never had it impressed upon me what occlusion meant, and I think this interest was first stimulated by the reports of this Society as published in ITEMS OF INTEREST. I am following the work closely, not with any anticipation of ever becoming an orthodontist, but I feel I cannot give the proper services to my patients unless I do know more about it. I do not feel I know when a case should be referred to an orthodontist unless I make models and study the subject of occlusion.

Dr. Hall has given us a very instructive paper.

Dr. Munroe. I have been particularly interested along the line of malocclusion, and, being more of a general practitioner than an orthodontist, I am glad he has brought the attention of this Society to the fact that many dentists do not appreciate the occlusion of the teeth. I have often wished that this important matter could be more firmly impressed on the minds of the dentists, for I venture to think that a large majority—I hardly know what percentage—would



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scarcely know what occlusion means if asked what teeth occlude with one another. I have endeavored ever since I attended the Angle School to give especial attention to malocclusion and the proper alignment of the teeth, as well as to the substitution of needed teeth. I enjoyed the paper because it comes home to me and impresses me more indelibly, that I should advise my patients more and more along the lines of proper occlusion.

I am heartily in accord with Dr. Fisher in
Dr. Hall. regard to making models of cases which come our

way, because we get a clearer conception in that manner than it is possible to get from the mouth. If more dentists did this the good to be accomplished might be a great deal.

The percentage of dentists supporting orthodontists is too low. You have taken the stand, some say, that you do not care; that you will get along without the dentist's support. How about the general public? I am thinking about the great good you will accomplish if you convince the dentist that he should support you. You must get down to the dentists and labor with them and show them the advantages which come to *their* clientele through *your* work, and you will thus accomplish much more than you are doing at the present time.



SOCIETY PAPERS



Etiology and Diagnosis of Facial Neuralgia.

By ALBERT L. MIDGLEY, D.M.D., Providence, R. I.

*Read before the Central Dental Association of Northern New Jersey, at Newark,
October 18, 1909.*

In the practice of dentistry, as in any other branch of medical or surgical science, we can not lay too much stress upon the importance of a correct diagnosis, and our ability to reach such a conclusion depends very largely upon our knowledge of dental and oral pathology. A dentist may possess the required skill to restore mechanically the usefulness of a carious tooth or have the ability to supply artistically artificial teeth where the natural teeth have been lost, yet his work is a complete failure if he overlooks the teachings and underlying principles of pathology to any given case. We may truthfully say then, that if we are to treat scientifically carious teeth and to restore correctly lost occlusion, facial harmony and contour, in a word, if we are to practice the art and science of dentistry successfully, a profound knowledge of dental and oral pathology is absolutely essential.

The history, symptoms and probable causes direct us in forming an opinion, but it is often very difficult and sometimes an impossibility to definitely and accurately locate the cause of pain. Especially is this true in that type of obscure neuralgia where a dull constant pain is our only objective symptom. To support our judgment in this class of cases particularly and to study in fact most of the conditions which we are to discuss this evening, the X-ray is indispensable and of supreme value.

We will now study the etiology and diagnosis of neuralgic conditions that are met with in the practice of dental and oral surgery and with lantern-slides to aid us, we will see the value of a correct diagnosis and its relation to a successful result.

**Dental Caries and
Pulpitis.**

The most common causes of facial neuralgia by far, are dental caries and simple pulpitis with its resulting decomposition and consequent abscess formation. They are the sources of pain so frequently that they should be thought of at the outset and given earnest attention. They are generally easily recognized, however, their pathology is very well known to you and a differential diagnosis is not difficult. For these reasons we will not underestimate the prominence they require if we but say that we should bear them seriously in mind in reaching a diagnosis.

Hypercementosis. Hypercementosis, which is very difficult to diagnose even with radiography to assist us, is a cause of very severe neuralgia. Since the only treatment is extraction of the offending tooth, it is highly important that we recognize this condition early in order that our patients may not suffer unnecessarily while we are trying to save a tooth with a supposed simple pulpitis.

I wish to quote here from the writings of Dr. Geo. A. Maxfield, of Holyoke, Mass., whose research work on this subject was of material assistance to the author, and with which you are no doubt already familiar. Dr. Maxfield says: "In considering the etiology of hypercementosis we find that it results from various causes, viz.: irritation of the pulp, slight irritation at the gum margin, excess of function, loss of antagonist, crowded condition of the arch, injury of the alveolus during extraction or in other ways, and violence." He also states that hypercementosis can only occur during the life of the pulp. Some claim also that the irritation of a dento-alveolar abscess may be the cause of the growth.

Since there is no enlargement of tissues surrounding the affected tooth to direct our decision, hypercementosis can only be determined by the history, symptoms and radiography. The radiography aids us in many instances, but where the growth is slight, and slight hypercementosis may be the cause of a very severe neuralgia, we may be unable to see it in the radiograph.

The symptoms closely resemble those of pulp irritation. The character of the pain, which may be constant or intermittent and vary from slight to severe and paroxysmal, is of extreme value in reaching a diagnosis. The patient can often localize the pain, although the painful area may include several teeth. Dr. Maxfield further states: "Hypercementosis may be the cause of sympathetic pain or disturbances localized in other organs, which themselves are free from any local disturbing influences."

By a thorough study of the history, probable causes, character of the pain and the condition of the teeth with models and radiographs and with the thought always in mind that such a condition may exist, a diagnosis should be correctly made.

**Malposed,
Supernumerary and
Unerupted Teeth.**

Second to caries and pulpitis as causative factors in the production of pain are malposed, supernumerary and unerupted teeth. Radiography is of especial value to help us in diagnosing these conditions not only in the difficult and obscure types, but also in easily discovered cases. It not only insures a positive opinion,

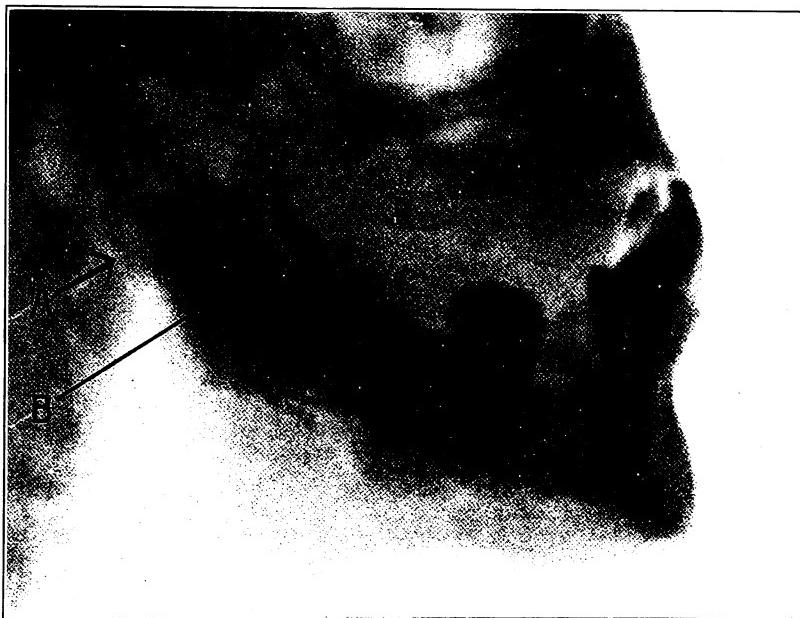


FIG. I.

Fig. I.—Malposed Unerupted Inferior Third Molar with Caries of Bone. Described under Case I.

but also governs our operative technique, doing away with unnecessary removal of tissue and preventing possible injury and disfigurement.

We find the third molars, notably the inferior, so frequently the cause of a persistent, undefined neuralgia that it is always well to suspect them when unerupted, or when partially erupted, and to resort to radiography for a confirmation of our suspicions.

With ankylosis, swelling and pain present and no history of violence and none of the teeth sensitive upon percussion, we may mistrust the third molar. In some of these cases an absolute diagnosis may be made by the probe or a sharp chisel under cocaine anesthesia. In those doubtful and more complicated cases, however, where there is normal mobility of the

jaws and no swelling, but a continuous, dull, throbbing pain in the mas-
ter region or even in either the ante- or post-auricular, the frontal, or
supra- or infra-orbital areas, the necessity of radiography to verify our
opinion is easily understood.

In connection with this particular cause of pain, we should not forget
that old roots may be covered by the gum, where teeth have been par-
tially extracted and apparently missing, and that broken broaches and im-

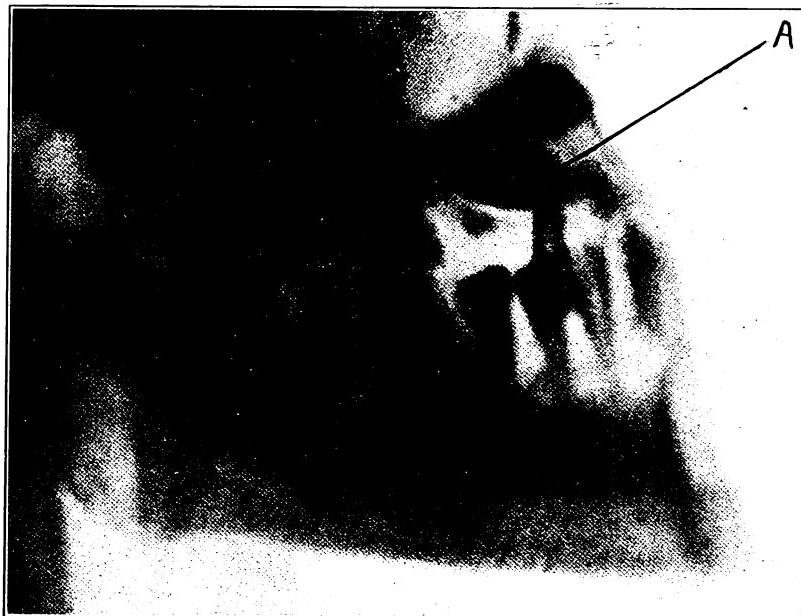


FIG. 2.

Fig. 2—Malposed Unerupted Cuspid Tooth. Described under Case II.

perfect root and crown fillings may be discovered with a skiagraph. It
may be of value to add that the author has found campho-phenique with
orthoform very efficient agents in the post-operative treatment of im-
pacted third molars or in any other case where the bone has been
denuded of periosteum or where pieces of bone have been broken and
removed in extraction.

The two following cases have been previously reported, but since
they are quite interesting, I ask your indulgence and take the liberty of
presenting them for your consideration.

The first case was that of a boy eighteen years
Case I. of age whose condition and symptoms closely sim-
ulated an impacted or unerupted inferior third molar.

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He had considerable swelling and pain from a dento-alveolar abscess which was apparently the cause of his inability to open the mouth. The tooth was extracted, but the partial ankylosis still remained. Radiography gave us no clue. Upon a more thorough visual examination a scar was noticed in the region of the masseter muscle in front of the lobe of the ear, which showed that an incision had been made in a transverse

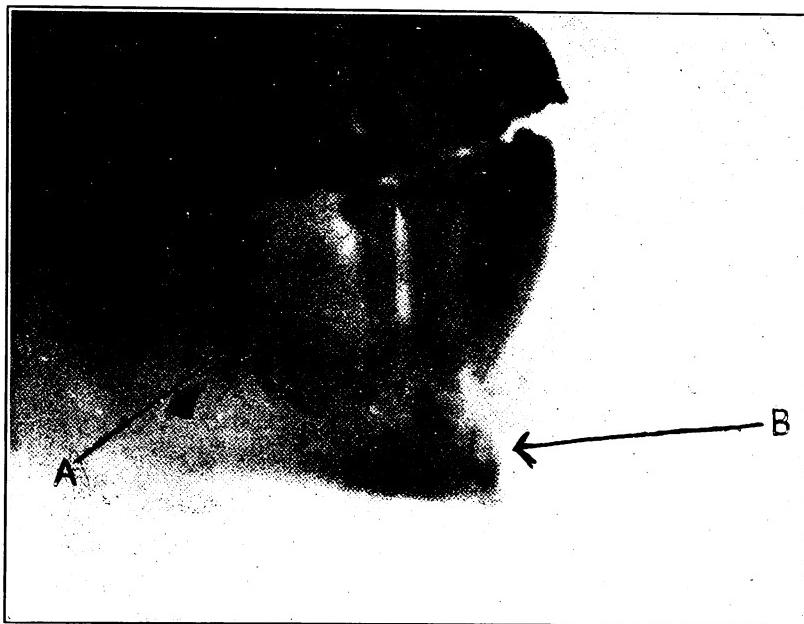


FIG. 3.

Fig. 3—Lateral View of Right Side of Face. Necrosis of Entire Body of Inferior Maxilla. Described under Case III.

direction to the fibers of this muscle. It was also learned that this partial ankylosis had continued since the boy was six years old, at which time a surgeon had lanced an abscess that had pointed in the above-named area, leaving the scar. There was an absence of all signs and symptoms save that his jaws opened obliquely with muscular tension in the region referred to. We decided that his present affliction was due to the abscess that developed when he was six years old.

Another case of interest in which the X-ray showed negatively was that of a baby three years old who was able to open his mouth but a quarter of

an inch. There was an absence of all other abnormal conditions and signs. The history showed that the child had been injured at birth by forceps in the region of the temporo-maxillary articulation. We failed to find any other satisfactory cause for his inability to open the mouth.

Fig. I shows a malposed, unerupted right lower **Case III.** third molar, with caries of bone. The patient was

a female fifty-four years of age, who had suffered severe pain in the region of the masseter muscle for one and one-half years. There was a sinus discharging a small amount of pus externally on the face, and this had persisted for six months. Ankylosis was also present. The radiograph showed the cause of the pain to be a malposed, unerupted lower third molar, which is seen very plainly in the ramus and in a horizontal position. It is indicated by the arrow "A." A carious condition of the bone surrounding the tooth is clearly visible and is indicated by the arrow "B."

An operation was performed under ether anesthesia. A crucial incision was made in the mucous membrane over the anterior border of the ramus, directly over the tooth, the membrane pushed back, and the thin lamina of bone directly over the tooth, which is seen in the radiograph, was removed. A probe was passed and the cusps of the tooth made out. The tooth was found to be loose in its position, owing to the affection of the bone. By passing a short right-angle hatchet excavator between the tooth and the bone, and by turning and pushing on the excavator, so that it would get a hold in the cementum, the tooth was with but very little traction removed. The bone was thoroughly curetted in the area occupied by the tooth, as was also the sinus, in which a wick was inserted. Upon absence of pus, the wick was removed and the edges of the wound on the face were freshened, trimmed and stitched that there might be as little scar as possible.

Her recovery was uneventful, save the post-operative pain, which was intensely severe. This pain, however, was lessened considerably by applications of campho-phenique and orthoform and the ice-bag. Boracic acid 4% solution was used as a mouth wash. The operation was performed entirely within the mouth, with the exception of the work on the sinus, which, of course, had to be done externally.

The advantages of the radiograph in this case were many. It immediately showed the cause and governed our technique in operating. It showed how easily we could gain access to the tooth from within the mouth through the thin lamina of bone overlying the crown of the tooth at the anterior border of the ramus. It also showed the liability to fracture the bone through the socket of the tooth, if undue force was

used, for the length of the tooth from crown to apex of the roots was almost equal to the depth of the ramus. These facts are proven by a close study of the picture.

Fig. 2 shows a malposed unerupted superior

Case IV.

cuspid tooth.

The patient was a male, fifty-six years of age, and suffered from pain in the right superior cuspid region. Pus dis-

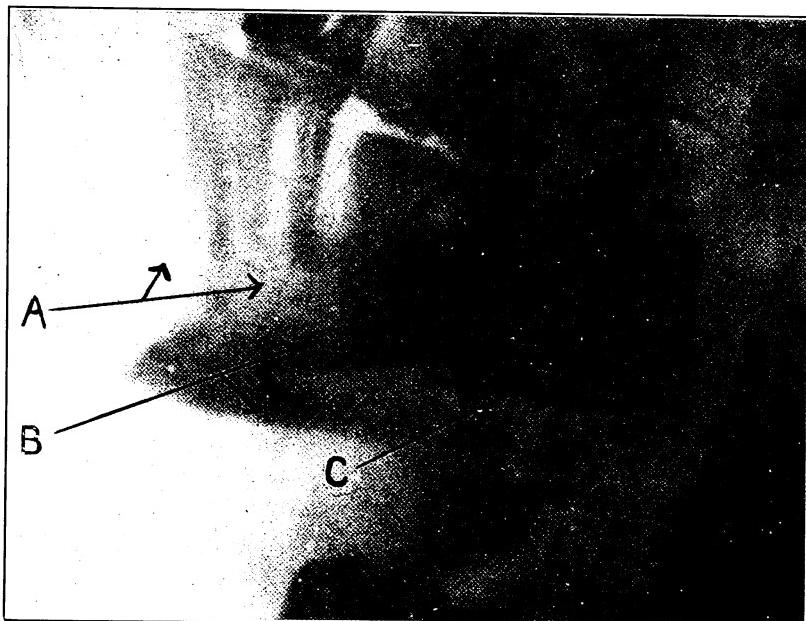


FIG. 4.

Fig. 4—Lateral View of Left Side of Face. Necrosis of Entire Body of Inferior Maxilla. Described under Case III.

charged from an opening in the gum in this area. The radiograph shows an unerupted tooth lying longitudinally in the jaw and is indicated by the arrow "A."

The tissues were cocainized and a crucial incision made in the mucous membrane overlying the tooth. Upon turning back the membrane, a cuspid tooth was exposed, which was removed with a bayonet root forcep. His recovery was uneventful.

In disease of the maxillary sinus the dental surgeon and rhinologist can often materially assist each other and thus work advantageously for the patient's welfare. Many cases of maxillary sinusitis

**Maxillary
Sinusitis.**



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are of dental origin, and in these cases especially the dental surgeon's services are of the utmost value. In that type of cases also, where disease of this cavity is associated with disease of the accessory air sinuses, our opinion is of importance in excluding dental causes. Therefore, if we are to get the best results, it is evident to you that we should consult with the rhinologist and he with us.

The most characteristic symptom of this disease is a discharge of pus from the nostril on the affected side. Other symptoms which may be found and which are more or less marked in each individual case, are swelling and bulging of the thin walls of the sinus; pain and soreness in the region under the eye and outside the nose, which is intensified or lessened as the head is held in different positions. The patient may also be conscious of fluid in the cavity as the head is moved about or have a sense of fulness and uneasiness in the cheek region. Other symptoms to be looked for are a crackling sensation under pressure and dusky color of the skin.

The most common dental causes are abscessed teeth and roots covered by the gum. Other prominent factors are foreign bodies, such as a broken broach, gutta-percha cone or cotton-dressing protruding through the roots of a tooth into the antrum, imperfect root fillings and roots of teeth forced into the sinus during extraction and not recovered. Other causal agents may be necrosis of bone of either syphilitic, tubercular, traumatic or chemical origin; benign and malignant growths or dentigerous cysts.

In making a diagnosis, much depends on a very careful and thorough examination of the teeth, for a cessation of all symptoms has been known to follow the removal of a tooth alone. In all cases radiography and transillumination should be made use of. With maxillary sinusitis present, we should not confound sympathetic pain localized in any of the adjacent teeth that we may not err in unnecessary extraction. While trouble with both antra is fortunately very rare, we should also not overlook the fact that it may occur.

Necrotic conditions, to which empyema of the maxillary sinus is usually secondary, are determined by the history, probe, characteristic foul odor and pus. Differentiation between benign and malignant growths is made with the history, age and microscopic examination.

With sound teeth on the affected side, the radiograph and transillumination showing negatively, and neither necrosis nor growths present, it is fair to suppose that maxillary sinusitis is due to or associated with disease of the accessory air sinuses, and therefore not within the field of the dental surgeon.



Fractures of the Maxillary Bones.

Violence is the usual cause in fractures of the maxillary bones, and in rare cases necrosis of some form may be the predisposing influence. Symptoms to aid us in diagnosis are immobility or impaired function of the jaws, loss of occlusion, crepitus, swelling, pain, drooling and foul odor. Fractures of the body and angle of the mandible and of the alveolar process of the superior maxilla present little or no difficulty in locating, but those situated in other parts of these bones, especially those in the ramus and neck of the condyle of the mandible and palatal and other processes of the superior maxilla are more difficult to find. Wherever the fracture is located, modern surgery demands a radiograph not only that we may know the position of fragments and exact line of fracture, but also whether the fracture is single or multiple.

Necrosis and Caries of Bone.

Necrosis and caries of bone are comparatively frequent causes of pain and deserve due thought in our search for the cause of pain. The most common diseases from which necrosis or caries may follow, are abscessed and malposed teeth, syphilis, tuberculosis, traumatism, benign and malignant tumors, chemical poisoning from arsenic, mercury, lead and phosphorus, the various local forms of stomatitis—ulcerative, gangrenous, aphous and thrush—and the oral lesions associated with the infectious diseases of childhood.

The history, probe, foul typical odor and radiography lead to a positive diagnosis. Before an operation is attempted a radiograph should be made that we may not be at fault in needlessly removing unerupted teeth or any unnecessary amount of soft or hard tissue. This slide shows the advantages of having a radiograph to study and to guide us in our operative technique.

Figs. 3, 4, 5 and 6. Necrosis of the inferior maxillary bone.
Case V.

The patient was a man forty years of age, and suffered from necrosis of the body of the inferior maxilla. The disease was very extensive and involved the body of the bone from the angle on one side to the angle on the other. From an examination of radiographs of both right and left sides of the face, our judgment directed us not to resort to radical treatment and remove all the diseased tissue at one operation, but rather to assist nature by removing the sequestra as they were exfoliated, and by keeping the mouth and teeth in as clean a condition as possible. The patient was given an antiseptic mouth wash and cautioned not to swallow any of the pus which was constantly accumulating.

If all the diseased tissue were removed at once and the bone thoroughly curetted, we feared that this slender, frail piece of healthy bone, around which new osseous tissue would form, might fracture or be accidentally taken away. Should either of these accidents happen, the patient, no doubt, would suffer more or less loss of function of the jaw and a frightful deformity with loss of contour of the chin and lower borders of the face.

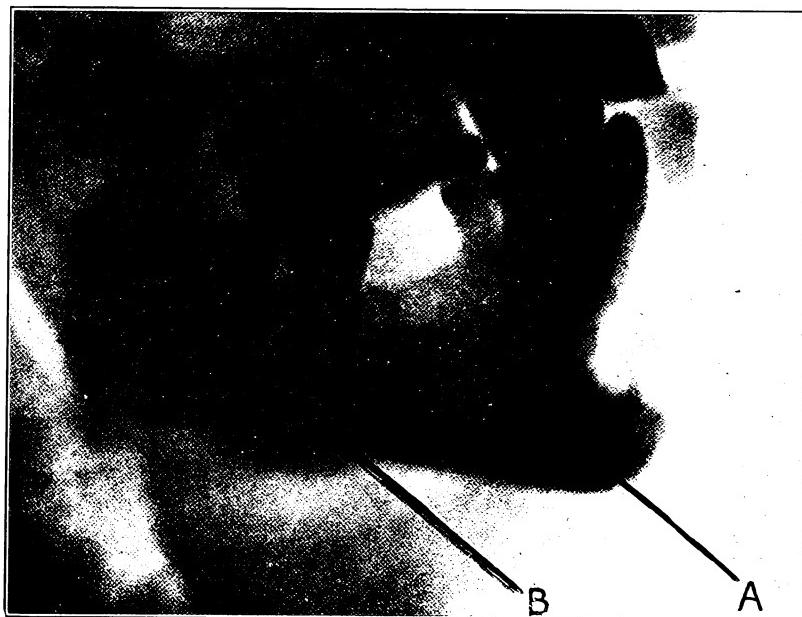


FIG. 5.

Fig. 5—Necrosis of Entire Body of Inferior Maxilla. Same View as Plate III. Taken Six Months Later Showing New Osseous Formation. Described under Case III.

Although the patient was not cured when Figures 5 and 6 were taken, a comparative study of them with Figures 3 and 4, respectively, is of value because it confirms the judgment we exercised in following along conservative lines in our treatment. An idea of the small amount of deformity resulting may be gained by a comparative examination of the outlines of the face, as is shown by the shadows which the muscular tissue and integument produced in the radiographs.

Figure 3 is a lateral view of the right side of the face showing necrosis of the entire right body of the inferior maxilla with the greatest

ITEMS OF INTEREST

amount of destruction in the incisor and molar regions. These areas are indicated respectively by the arrows A and B. Figure 4 is a lateral view of the left side of the face showing very plainly necrosis of the entire left body of the inferior maxilla, which is more marked in the incisor and bicuspid regions. The arrow A points to the incisor and bicuspid regions, and the arrow C to the molar region. The arrow B points to the very thin, frail, horseshoe-shaped piece of healthy bone,

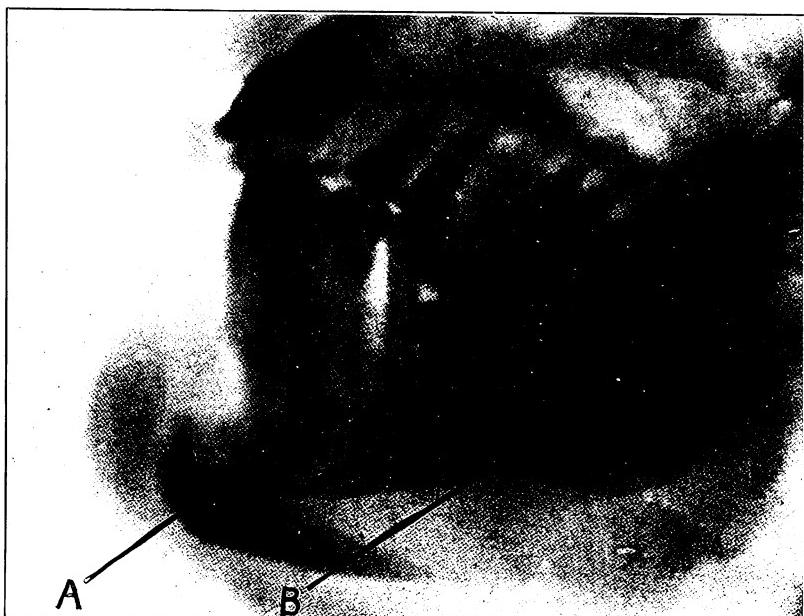


FIG. 6.

Fig. 6—Necrosis of Entire Body of Inferior Maxilla. Same View as Plate IV. Taken Six Months Later Showing New Osseous Formation. Described under Case III.

around which new osseous tissue is forming both on the right and left sides.

Figure 5 is the corresponding view of Figure 3 taken six months later, at which time the patient was still uncured. This view shows the amount of new bone formation that has taken place in this time on the right body of the bone, and is indicated by the arrows A and B.

Figure 6 is the corresponding view of Figure 4, and was taken six months later with the patient still uncured. It shows the amount of

new bone tissue that has grown in this space of time, and the arrows A and B point to the regions of this osseous formation.

This patient was treated at the dental and oral clinic of the Rhode Island Hospital, but left the city to live in New Brunswick, New Jersey, before he was cured. I was unable to locate him later, and therefore can not report him cured.



FIG. 7.

Fig. 7—Necrosis of Superior Maxilla. Described under Case IV.

This case (Fig. 7) is presented to show the value and necessity of a radiograph before operating on the jaws of children with teeth in the process of development. In these patients a conservative operator will resort to a radiograph in every case, even though his diagnosis is positive.

The patient was a boy seven and one-half years of age with necrosis of the superior maxilla in the region of the right superior first temporary molar. The radiograph was made that we might be guided in our operation and to prevent, if possible, the removal of the permanent cuspid and bicuspids which are seen in the picture in the process of development. Arrows A, B, and C point respectively to the permanent cuspid

ITEMS OF INTEREST

and second and first bicuspids. The necrosed area is not defined in the radiograph.

With necrosis present in children, whose permanent teeth have not erupted, it is an easy matter in removing diseased bone and curetting to unintentionally remove the developing permanent teeth. In this class of cases, especially, it is evident that radiography is of great benefit to the patient and of immense aid to the surgeon.

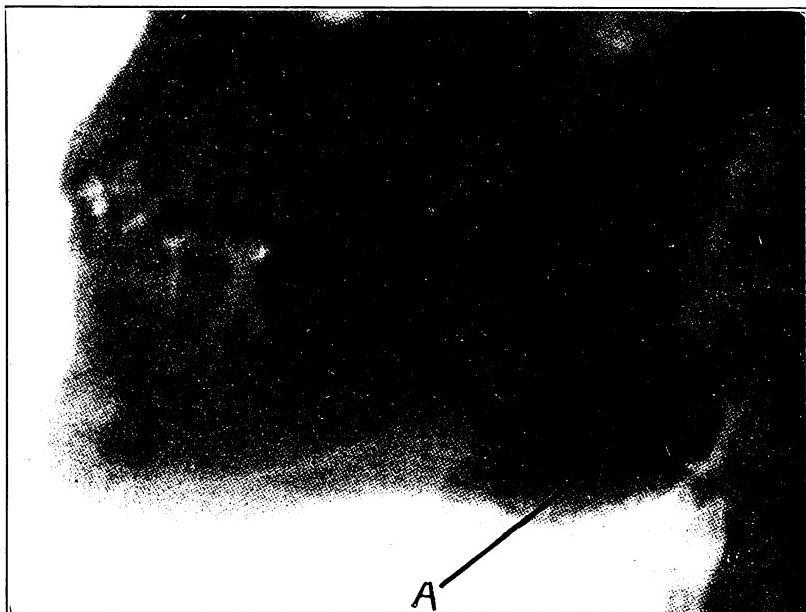


FIG. 8.

Fig. 8—Tumor at the Angle of the Jaw. Described under Case V.

An uncommon but exceedingly serious and severe form of neuralgia is tic-douloureux. In studying this disease I believe we should reach a diagnosis by exclusion, for in this manner the welfare and interests of our patient are best served. A minor operation generally affords only temporary relief and a major operation, unless performed by an expert in brain surgery, has a high mortality.

The most common characteristic symptom is paroxysmal pain and a typical contortion of the muscles of the face while this is in progress,

which is not found in any other disease of the mouth, face or jaws. Although the pain may be localized in any one of the three branches of the fifth nerve at times, it usually predominates in one particular branch. Aside from this violent and intense pain there is a marked absence of the cardinal symptoms of inflammation. Pain may be present in one tooth on one day and in another on the next and so on. The tooth is sensitive to cold and sore on percussion and the patient feels absolutely certain that this tooth is the real cause. Extraction, however, affords only temporary relief, for we soon have a similar condition to contend with in another tooth in the same region.

In diagnosing by exclusion, we should eliminate imperfect fillings, carious teeth, pyorrhea alveolaris, pulpitis and its sequelæ, pulp-stones, malposed and supernumerary teeth, hypercementosis, roots not visible to the naked eye, foreign bodies, fractures, dislocations, maxillary sinusitis, stones in the salivary glands or ducts, benign and malignant growths, dentigerous cysts, sympathetic pain, reflex neuralgia from local or general causes—particularly in neuropathic patients—and the simple and infectious forms of stomatitis from both local and systemic conditions. We should also consider very carefully a suspicious history, especially syphilis, and always bear in mind, before rejecting any or all of these causes, to make use of appliances and apparatus that materially aid us and which modern medicine demands that we use.

Stone in the Salivary Glands or Ducts. Stone in the salivary glands or ducts should be considered as a source of pain. Swelling and pain in the gland or in the region about the duct, with possibly the flow of saliva diminished or absent, warrants us in suspecting this condition.

Diagnosis by exclusion, radiography and incision, and the passing of a probe will often lead to an accurate diagnosis.

Deformities. Deformities both acquired and congenital are very seldom the cause of pain, yet they may be, and should be thought of by the observing dentist.

Infectious Disease and Stomatitis. Benign and malignant growth and the oral lesions of the simple and infectious forms of stomatitis, both from local and systemic causes, are very often found to be the etiological factors in the production of pain. Syphilitic gumma may closely resemble a malignant growth, and it is here urged that we deliberate well upon the resemblance of the two and consider a syphilitic history before forming an opinion that we may not err in advising the removal of tissue that would yield to treatment under mercury and iodide of potash.



Fig. 8 shows a tumor at the angle of the jaw.

Case VII.

The patient appeared at the dental and oral clinic of the Rhode Island Hospital with swelling of the tissues about the angle of the jaw. An examination of the teeth and jaws gave us no clue. This radiograph was made to aid us in diagnosis and shows very clearly a growth of definite outline (arrow A).

She never returned for further treatment and a very interesting case was lost to study. The cut is shown for the purpose of emphasizing the importance of radiography in dental and oral diagnosis.

As specialists in our particular branch of medicine we may not be called upon to actually treat some of these last-named diseases, but we may be consulted and asked to act in an advisory capacity to the general practitioner or surgeon. For these reasons alone and in order also to protect our innocent patients and ourselves from infection we should be well acquainted with all types of oral disease.

In a short space we have tried to cover the etiology and diagnosis of facial neuralgia. The conditions mentioned may be met with in the practice of any dentist, and although he may not treat all of them, if he has the ability to recognize them and to give competent advice, he has done his duty to his patient, himself and the dental profession.

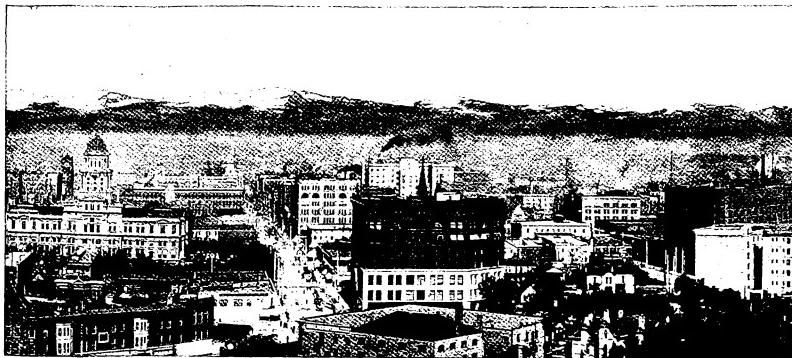


The Denver Meeting.

The National Dental Association, the National Association of Dental Examiners, the National Association of Dental Faculties, the American Society of Orthodontists, the Delta Sigma Delta Fraternity and the Psi Omega Dental Fraternity all meet at Denver during July.

There is probably no city in the world which comes as near being an ideal convention city as Denver. The ease and facility with which one can get about the city, the central location of hotels, ticket offices, stores and, above all, the Auditorium where the meetings will be held, contribute to this end.

Denver endeavors to maintain its reputation as a tourist and con-



A GLIMPSE OF DENVER

Population over 200,000. One mile above sea-level, in sight of perpetual snow.

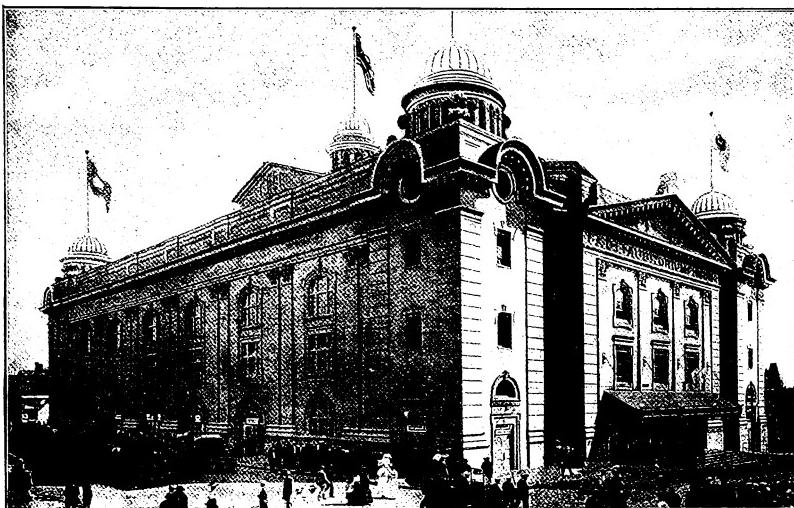
vention city in matters other than mere accommodations and conveniences. Special attention is given to street lighting and decoration so that it is aptly termed the "City of Lights." Public parks are numerous, easily accessible and splendidly kept. There are many places of amusement and entertainment to suit the varied tastes. From an educational standpoint the State Museum at the Capitol Building, the Museum of Natural History at City Park, the New Library Building and the Mint afford exceptional advantages. The automobile enthusiasts will enjoy the broad streets, parkways and boulevards.

One of the strong claims for Denver as a convention city is its climate. The meeting will be held in July, one of the hottest months of the year, yet there is no danger of sweltering during the sessions, while

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the nights are always cool. The high altitude and dry atmosphere give Denver a climate that makes life worth living.

"A few weeks spent in Denver and the mountains of Colorado during the summer is an education in itself, and the pure invigorating ozone replaces lost vitality and stores up enough energy to equip one for a renewed struggle with the problems of life." While in Denver you will



THE NEW AUDITORIUM.

Where the meeting will be held.

not only be attending the National Convention, but will be getting the much-needed rest and recreation.

Denver is the gateway to the wonderful mountain scenery of Colorado, the Switzerland of America. The side trips out of Denver are numerous and varied in character, time and expense.

The entire business of the National meeting will be conducted under one roof—the Auditorium, one of the largest convention halls in America. This building—owned and managed by the city—is absolutely fireproof, is perfect acoustically, and is so designed that part of it can be used as a theater, seating about 4,000 people, leaving ample committee rooms and abundant space for exhibits. Space has already been reserved by the following manufacturers: The S. S. White Dental Mfg. Co., The Harvard Co., A. C. Clark Co., The Dentists' Supply Co., Eli Lilly & Co., Horlick's Malted Milk Co., Kolynos Company, Chas. H. Phillips Chemi-

cal Co., The Ritter Dental Mfg. Co., W. A. Ivory, W. V.-B. Ames, The Apothecaries Co., James J. Ottinger, Lambert Pharmacal Co., The Denver Chemical Co.

The hotel accommodations are all that could be desired, and the rates the same as in all cities. The Brown Palace Hotel will be the headquarters for the National Dental Association, the American Society of Or-



SULTAN MOUNTAIN.

On the Denver & Rio Grande Railroad.

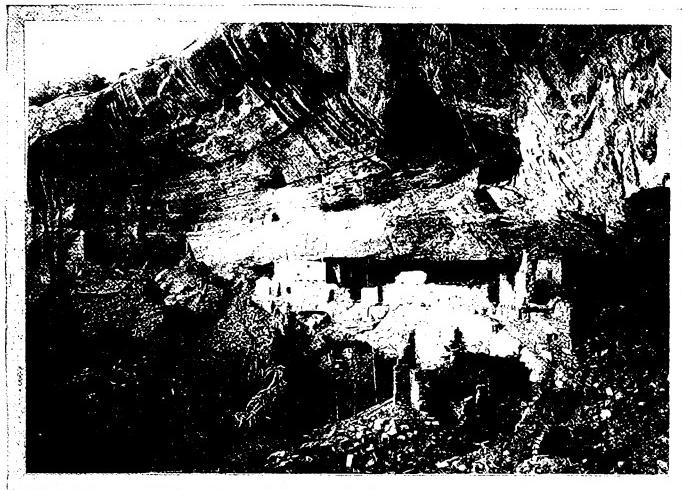
thodontists and the Psi Omega Dental Fraternity ; the Savoy Hotel will be the headquarters for the National Association Dental Examiners and the Delta Sigma Delta Fraternity, and the Shirley Hotel will be the headquarters for the National Association of Dental Faculties. These hotels are all located at the intersection of 17th Street and Broadway. This constitutes one end of 17th Street. The main entrance of the Union Depot is at the other end, and street cars run between the two points. The hotels of Denver are numerous and adequate, where accommodations may be had for \$1 per day and up for room without bath, and \$2 per day and up for room with bath. A fair average rate will be about \$2 and \$3 for one and two persons in room without bath, and \$2.50 to \$4 with bath. Reservations for hotel accommodations should be made in advance through the Local Committee.



Round-trip railroad rates to Colorado common points during the summer season, June 1 to September 30, final return limit October 31, prevail about as follows:

Chicago, \$30; St. Louis, \$25; Omaha and Kansas City, \$17.50.

Notice.—It is not generally known that these tickets can be purchased through to Colorado Springs and Pueblo at the same rate as to



CLIFF PALACE, MESA VERDE NATIONAL PARK.

Published by courtesy of Denver & Rio Grande Railroad.

Denver. By doing this the tourist can visit the numerous points of interest south of Denver (Colorado Springs, Manitou, The Garden of the Gods, Pike's Peak region, Pueblo, etc.) without any additional expense for transportation. These tickets allow unlimited stop-overs, within final limit, in both directions at Denver and Colorado Springs, giving all the time desired to attend the convention, take in the side trips, etc. Tickets may be validated for return passage at either of the points mentioned, leaving it optional with the purchaser whether the ticket is used south of Denver.

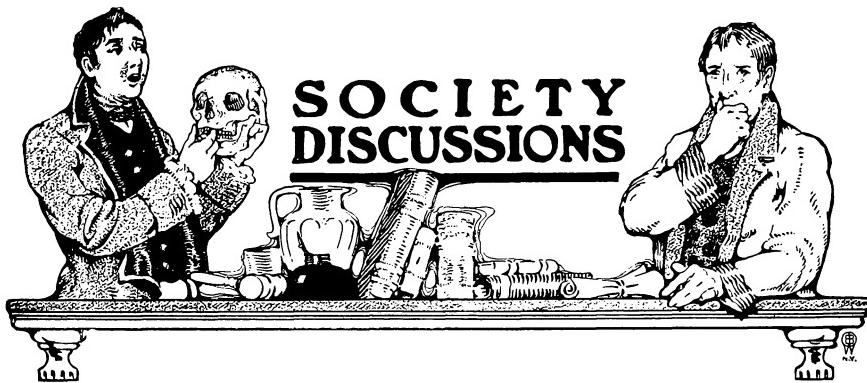
It is the ambition of the dentists of Colorado to have one of the largest and best meetings in dental history. All are cordially urged to attend and to bring with them their families and friends.

For detailed information, vacation suggestions, estimates, etc., write to

DR. H. F. HOFFMAN,

Chairman Publicity Committee, N. D. A.

612 California Bldg., Denver, Colo.



Central Dental Association of Northern New Jersey.

The regular monthly meeting of the Central Dental Association of Northern New Jersey was held on the evening of October 18, 1909, at Davis's Parlors, Newark, N. J.

In the absence of the president, Vice-President Mitchell called the meeting to order.

The secretary called the roll and a quorum was found to be present.

The minutes of the last meeting were read and approved.

On motion the discussion of the Revision Committee's report was postponed until the next meeting.

Dr. Sutphen, from the Free Clinics Committee, **Report on Free Clinics.** reported as follows:

Total number of treatments at clinics.....	216
Number of individuals treated.....	92
Number of fillings inserted	55
Number of temporary fillings with treatment.....	94
Number of extractions	83
Number of patients when no dentist was in attendance.....	40

Dr. Sutphen stated that the clinic now has twenty-five operators, and it is very desirable the number should be increased to thirty-two, and called for volunteers for the work, each to serve once a month for two hours.

He said the committee felt a great work had been started and one destined to grow to large proportions; that the committee felt very much encouraged and desired to publicly thank the operators who so faithfully



have given their services. The committee felt in time that this work would lead to a department of free dental clinics to be supported by the municipalities, together with the appointment of inspectors in the public schools to examine the teeth of the school children, and that the committee believed that in time an appropriation would be made by the city for the maintenance of a free clinic.

Dr. Sutphen stated that the committee desired to report progress only.

On motion the above report was accepted.

The chairman then introduced Dr. Albert L. Midgley, D.M.D., of Providence, R. I., who read a paper, entitled "Etiology and Diagnosis of Facial Neuralgia."

Discussion of Dr. Midgley's Paper.

I congratulate the speaker, first, because he is
Dr. B. F. Luckey. one of the very first gentlemen to call the attention
of the dental profession to the absolute necessity of
the use of the X-ray in the dental office.

We have heretofore been frequently advised to send our patients to specialists and have the X-ray picture taken, but the speaker has emphasized the necessity of doing this work ourselves. You will find it is one of the greatest aids to successful diagnosis. Heretofore the diagnoses have been based largely upon guesswork and conjecture; the X-ray eliminates both of these and makes certain the elements you have to deal with.

I have been using the X-ray for a long time and now find it an absolute necessity in the diagnosis of very many cases. You would be astonished if I could bring before you some of the pictures taken by my son, who operates the apparatus in my office, illustrating the junk of various kinds that we find stowed away in tooth roots.

In a diagnosis of neuralgia, and especially in tic-douloureux, it is extremely useful. I had occasion a year or so ago to examine the mouth of a lady who had been suffering for eighteen years with the most intense pain. A very prominent surgeon, after treating her for some time at that period, pronounced it a case of tic-douloureux. He treated her for two years and finally advised the extraction of all her upper teeth, which she told me were then in perfect condition. When I saw her she was anemic and very much disheartened. After the extraction of her teeth at the time referred to, she had an artificial plate made and for fifteen years she wore it, suffering a great deal of pain all the time. Some few



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weeks previous to her appearance in my office she had a very severe attack which continued periodically until the time I saw her and for the previous three or four nights before seeing me she had been all night almost distracted with pain.

She had seen a dentist as well as a physician, and the dentist had diagnosed the case as one of necrosis of the hard palate and had fixed a time for an operation, but somebody had induced her to see me before undergoing the operation.

On examination, I found an area of the size, perhaps, of a twenty-five-cent silver piece in the roof of her mouth, which was very much inflamed, spongy and tender; there was a slight opening toward the center of the spot and, with the use of a very fine probe, I felt something hard and flinty. She looked at me very anxiously and said, "Is it necrosis?" I said, "No; it is positively not." She asked me what it was, and I suggested that she be patient, and after some further examination I outlined with my probe the crown of a tooth. I could see nothing, but I knew the flinty hard feeling meant nothing else but enamel. I anesthetized the parts and took out one of the most beautiful, well-formed cuspid teeth I had ever seen, and I told her that her tic-douloureux was cured, and she would have no more pain, and that she should come back and see me in ten days, which she did, and when she came in I saw she had a color in her cheeks; she had increased in weight; there was a brightness in her eye and she was very different from the dejected and worn-out little lady who came on the first visit, and she told me she had no pain since I took the tooth out.

I did not use the X-ray there, but if I had I would have seen what I found later with the probe. But suppose the surgeon who eighteen years previously had charge of the case had used an X-ray—although it was not then in use, if I remember correctly—he would have discovered this condition, because an X-ray picture in such a case is just as clear as a photograph taken of one's face. But he went along with his guess-work as they sometimes do in such obscure cases. He advised the extraction of the teeth, expecting that to do the work, and they were sacrificed, and for many years after the introduction of the radiograph this lady suffered intense pain.

It takes but a very short time for an exposure, about thirty or forty seconds, and we get splendid pictures. Nor does it take many minutes to develop. After taking the picture I can have the negative in my hands in ten or fifteen minutes and see the conditions exactly.

Do you not think it is worth while to adopt into your practice such an apparatus as will eliminate the guesswork that we have all been employing, so that we may be sure of our diagnosis? I predict the day



is not far distant when every progressive dentist, every man who values his reputation in the eyes of his professional brethren, as well as his financial success, will have this accessory to his practice. And there need be no danger in the use of it. That was one of the great stumbling-blocks. Of course there is danger in the use of the X-ray, just as there is in the use of guns and many other things, but there is a right way to use these dangerous things, and there is a right way to use the radio-graphic machine, and if it be properly handled and used with intelligent skill and care there is no more danger than there is in drinking a glass of water.

My advice to you all, as Dr. Midgley has shown you to-night the advantage of it, is to investigate the subject in the interest of your patients, if not in your own interest, and I predict it will not be long before you will be convinced, as I have been and am now, that it is one of our most valuable aids. [Applause.]

I have not anything to add to what Dr. Luckey
Dr. Barry. has said. I have had but very few cases of facial

neuralgia, and I have had a couple of them due to impacted molars, as Dr. Midgley has referred to in his paper. I have not an X-ray machine of my own, but Dr. Peabody, who is very close to me in South Orange, takes very excellent pictures and takes them for me, and, as Dr. Luckey has stated to be the case with him, I have found them of very great benefit to me in my examination of these cases.

I desire to thank Dr. Midgley for his very excellent paper. I enjoyed it very much, and I think we should all be very grateful to him for coming from Providence and presenting this subject to us.

On motion, a vote of thanks was extended to Dr. Midgley for his most excellent paper.

On motion, adjourned.

Second District Dental Society. December Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, December 13, 1909, at the Kings County Medical Library Building, 1313 Bedford Avenue, Brooklyn, N. Y.



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The president, Dr. F. T. Van Woert, occupied the chair and called the meeting to order.

The secretary read the minutes of the last meeting which were approved.

The paper of the evening was read by Dr. Fred. A. Peeso, of Philadelphia, his subject being "Bridgework, Past and Present."

Discussion of Dr. Peeso's Paper.

It gives me great pleasure to be here this evening for two reasons: one is, I am interested in crown and bridgework and everything that pertains to it; and the other is, that anything Dr. Peeso has to write

or say on the subject I have always regarded as of importance and authoritative. Dr. Peeso is one of the foremost, if not the foremost man, in his specialty. I had very good reason for coming to this conclusion while a student, spending my spare time for the greater part of two years in his laboratory and his office, which afforded me an excellent opportunity to see the class of work he did at that time, which, I presume, he has improved upon since. Many of the cases seen at that time excited my admiration. In some bridges he had gone to the extreme in the matter of anchorage; a full upper case anchored on four roots, possibly, or a lower case anchored on a similar number, and always with the very finest detail in the work. Some cases had been in the mouth for a number of years. On several occasions that I distinctly remember I saw bridges that had been in for a number of years without any irritation of the gum, or the slightest abnormal condition. It is really with very great satisfaction that I have come here to-night and heard Dr. Peeso read his paper, because he is responsible in a large degree for any knowledge I may have on the subject, and it gives me peculiar pleasure to make this public acknowledgment of that fact.

I have not seen this paper as Dr. Peeso presented it. Yesterday I received some notes which embodied some of the principles, but I only had time to glance over them. The spice of discussion really comes from some difference of opinion, and for the paper I have nothing but the heartiest commendation for every point in it.

As to the early bridges which have been spoken of, I think the whole problem, from my observation, hinges on the proper preparation of the roots and fitting of the bands, which, in some instances that I have observed, is just as likely to have been done fifteen or twenty years ago as more recently, and in some of the bridges which I have taken off recently for some cause or other, where the bands were fitted properly, they really



seemed to impress me as being just as satisfactory, if not more so, than some that were done more recently. Many of those teeth that were used as abutments were not devitalized, and for that reason, of course, the downfall of the work resulted in many instances. It seems to me in the matter of past and present, that the men who really did do the work conscientiously and fitted the bands as he should, did as good work then as the work that has been done since.

Dr. Peeso probably stands as much for a radical treatment of the roots as any man—if not more so, in the cutting off of molars that tilt forward, so that the bands will hug the necks of the teeth perfectly, no matter what that may involve—even cutting away a good share of the tooth, and that is really the point upon which the success of the work very largely depends. Then comes malocclusion and all the other obstacles that may occur.

As to loosened teeth as abutments: when these cases come under my notice I look upon them with a good deal of charity. Many times patients come to us with teeth that are loose, and they do not want to sacrifice those teeth; they want something put on them, even if it lasts only a year or two. Often in those cases it is not so much a matter of bad judgment as a matter of pleasing the patient to that extent. Within a month I have had a case in which there was very extensive work, and it seemed to me it would have been better to take out some teeth and put in different bridges when the work was done two years ago. The work was done by a very prominent man. That patient had two teeth left in the lower jaw and four above, and those four stood together in the front of the mouth. He insisted upon having partial dentures made, even if they lasted only six months. He said: "I don't care about the expense; that does not concern me at all, but I do not want to sacrifice even a loose tooth if it can be retained even a short time." Anyone who saw that would think I had used poor judgment in putting in those appliances, but under the circumstances I did not. It was done with the perfect understanding that within six months or a year it might become necessary to take out those teeth. With very rare exceptions do I put crowns or bridges on teeth that are vital. I have seen quite a little of that, and almost invariably conditions present such as Dr. Peeso has described, and there is trouble—either death of the pulp and consequent abscess, or pulp stones—and I do not approve of it unless for temporary purposes with the idea of taking it off and having the work done more thoroughly in the near future. Often the patient will come to us on the eve of leaving the city, and want something that will last a few months, and under those circumstances I put on a piece temporarily on the vital teeth; but for anything permanent, I think the teeth should be devitalized, the canals opened and the roots



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properly treated. In that way the chance for ultimate success and the long continuance of the use of the piece is greatly enhanced.

As to too much hurry: that is a point that deserves attention. Those of you who know me, know that I am not likely to be in a hurry with my work. I always try to stick to this. The strongest pressure is brought to bear many times when it comes to the trimming of roots for busy men whose time is valuable, and it really takes all one's moral courage to carry out his ideas; but in the end it pays. Within a few days I have seen some of my first work. I could not detect the slightest irritation in any way from the bands. It was a bridge of five teeth anchored on two roots. Personally, I would rather lose a patient than do differently. Cutting 'cross lots, so to speak, to get a result that we feel is bound to be short-lived, is a mistake.

Too great stress can not be laid upon root work. Dr. Peeso made that plain in his paper, and you all understand its importance as well as I.

I realize that this is more or less of a rambling talk. I want to close by saying I have nothing but commendation for the paper, and I am very glad to have heard it.

We have with us this evening several distinguished members of our profession, and I shall be very glad to call upon no less a one than the president of the New York Odontological Society, Dr. W. D. Tracy.

Dr. W. D. Tracy, *New York.* I hardly feel that I am qualified to speak on this paper, because I do not consider I am an expert bridgeworker; but I do bridgework to the best of my ability.

It might be interesting to state that as far as my early professional education was concerned, I was brought up in an atmosphere where there was a good deal of prejudice against bridgework. In the office where I spent three years it was their boast that they had taken off and thrown aside more scrap gold and bridgework than they would ever use. In the places where other people might have used bridges they put in partial plates, which I think are preferable to indifferent bridgework.

Since attending the University of Pennsylvania, where I had the blessed privilege of studying under this master, I feel my attitude has changed. I think a man in full practice can not possibly serve his clientele well unless he understands the principles of bridgework, and unless he does good bridgework. I think there is a demand for it, and we must do it. There is a temptation to cut corners, as has been said, and hurry the work, and it is hard sometimes to escape that temptation; but when I see sometimes the poor bridgework that has lasted many years in the mouth I am encouraged to go ahead and try to make better



bridges as I go along, because if the poor bridges last for that length of time, better ones will last for a longer time and give better satisfaction.

There has been a revolution in regard to the treatment of pulps in teeth that are to be used for abutments. The observation and experience of those who have been doing the work has resulted in the consensus of opinion that pulps should be taken out, and I believe it is the best, and, in fact, the only practice to follow. Now and then we may utilize a tooth for a bridge abutment with a live pulp, but it is very, very rare. In my own practice I would seldom use a tooth with a live pulp in it for a bridge abutment.

We have one of our own members who has long **President Van Woert.** been intimate with one of the greatest crown and bridgeworkers in the country, and I think you will all profit by hearing from Dr. Ottolengui and his experience with Dr. Hart Goslee, of Chicago.

I am not going to say very much, except to tell **Dr. Ottolengui.** you of one piece of work Dr. Goslee exhibited to me this summer, not so much on account of its marvelous success as bridgework, but to emphasize the rule laid down here to-night and agreed in by every speaker so far—that the pulps of teeth used as piers must be removed. I had the privilege of traveling West with Dr. Goslee this year, and in San Francisco we saw this patient who had gone from San Francisco to Chicago to have Dr. Goslee do this work. This was a case of malocclusion, complicated with malformation. There were five or six teeth absent, which the X-ray did not disclose, and the laterals and centrals were all peg-shaped teeth. Dr. Goslee reconstructed the entire denture above and below, using small bridges and crowns, and he removed the pulps from all the teeth. That is all.

The subject is now open for general discussion. **President Van Woert.** We will be glad to hear from Dr. M. L. Rhein, of New York.

It certainly is an evidence of the estimation in which the essayist is held, that so many members of **Dr. M. L. Rhein,
New York.** the First District Society have crossed the river on such a bad night as we have to-night. The short essay to which we have listened is certainly a classic as far as it defines the merits and demerits of bridgework. The conciseness with which the essayist has illustrated the essentials of consistent bridgework has never been better stated in public. There have been a few things said in the discussion that especially interested me. The main one has been the apparent unanimity as to the advisability of removing the pulps from all roots that are utilized for abutments or for crowns. I have personally



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fought this battle for so many years, that it is a great gratification to see the practical unanimity on this subject. I have no doubt the essayist himself recollects a very spirited discussion on this subject that we had many years ago at one of the alumni meetings of the University of Pennsylvania, and nothing illustrates better the fact that truth will prevail, than the stand that Dr. Peeso takes to-night, when I recall the bitter opposition he manifested on that occasion to the necessity of pulp removal and the beautiful conversion that he confesses to-night.

The most important requisite, when a bridge is to be constructed at all, is the necessity for absolutely healthy roots. It is a very pertinent thing to this subject that a very large percentage of bridges may be constructed with the most perfect skill, as far as the preparation of the roots and the fitting of the bands is concerned, and be made mechanically perfect in every respect, and the next operator may yet find at the end of some of the smaller roots, in the molars especially, small blind chronic abscesses that never have any external opening and which apparently were not even suspected by the bridgeworker. Those of us who have been giving special attention to radiography have had our attention more and more called to the large percentage of these abscesses that go unrecognized. No one who is familiar with the pathology of this region can deny or overlook the terrible amount of damage that such roots are constantly doing. It is a mild form of blood poisoning that continually vitiates the health of the patient. It is bound to lower the vitality of the individual, and its bad effects generally are shown more pertinently at a period when the patient can ill-afford to have them show. This, to my mind, is the important factor for the future in work of this kind. When the dental profession will recognize the fact that the removal of pulps from molar teeth, if they are to be carried out successfully in a large percentage of cases, often means almost the complete destruction of the crowns themselves in order to produce healthy roots, they will reach a decision tending to do this work so as to leave it in a healthy condition. The idea that curved roots can be successfully cleansed to their ends through small openings is at present the one idea that ought to be seriously condemned. A propaganda against this sort of work has been started in the same manner as it has been against leaving live pulps in teeth, and I only trust that the length of time for the profession to see the necessity of reaching the same conclusion will be as short. Nothing has shown this more clearly than the radiograph. One other point I do not want to leave undiscussed, because I consider it a most important one, the question of bridging loose teeth. No other successful method of permanently preserving loosened teeth has ever been brought before the dental profession, and yet there is a small percentage of such cases which



are absolute failures. In a type of patient who, for want of a better term, might be called the truly gouty type, where the thickening of the pericementum goes on with the utmost rapidity, there seems to be at the present time nothing to prevent those teeth from disrupting themselves from the alveolus. Fortunately, the percentage of those cases is small, and yet when such cases do present, they are often cited as illustrations of the failure of bridgework in preserving loosened teeth, when they really form such a very small percentage of the cases that we treat that they are not even worthy of consideration when one considers the inordinate benefit, and the great number of loosened teeth that can be preserved permanently in this manner, if every particle of pulp tissue is removed from their roots and the ends of those roots are in a healthy condition. Of course, this is a very important proviso, but I want to place on record my own positive assertion as to the fact that bridgework will do this, and do it permanently. This, however, does not mean that I advocate in extension bridgework the use of piers which are loose and made to endure a stress beyond reason.

I feel very much like the man who has exhibited **President Van Woert**. all the children in the block belonging to his neighbors, and then comes back home and says, "Now look at mine." We have with us a member of our own society—an ex-president of this society—a man who can discuss this from a very different point of view from those who are right in the city here. I am going to call upon a distinguished member who hails from the wild and woolly southeast of Long Island—Dr. Hamlet.

Dr. Hamlet. This paper, on the past and present of bridge-work, has been very agreeably accepted, judging from your applause, and from the discussion of distinguished members of the profession in New York; but it seems to me the discussion so far has related to the past conditions of bridgework—of banding or crowning teeth. There has been something said here regarding the devitalizing of the pulps in teeth. I have read only this month a paper by Dr. Goslee, who has shown us some very excellent illustrations where he utilized cast fillings in teeth; those were put in live teeth to hold small bridges, and it certainly seems to me a better method than to destroy the pulp of a good strong tooth to hold a small bridge.

I have in mind a case I am making which I started to-day, and I shall recite this as an illustration of what I mean, though I may be criticised. This patient has a lateral root on the right side. The first bicuspid is missing. The molar, on account of the loss of the bicuspid, has



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drifted forward. In that molar I had an excellent chance to make a cast gold filling, with a Richmond crown on the lateral root, connected with a bar. I think that would be a better procedure than to devitalize the pulp in the first molar, and subject the patient to all that discomfort. I have also believed that in the case of a dead tooth, for instance, if the filling was too high, so that the stress of mastication should come directly on that dead tooth, it would feel the effect of the stress very quickly, and this undue stress would, perhaps, ruin or hasten the destruction of that abutment.

The paper I must commend, because it shows in detail what we should do; but it seems to me that regarding the devitalizing of pulps, for the sake of putting on small bridges, I would hesitate a long time before I would kill the pulp in a living tooth for that purpose. I refer to small bridges, of course. In large extensive bridgework no doubt such a procedure would be necessary.

I was very much surprised to hear Dr. Reitz say that he would put a bridge on loose teeth, even temporarily. I would hesitate to place a bridge on loose teeth, even for temporary purposes. Sometimes those teeth can be tightened. It may be a case of peridental inflammation or pyorrhea, but if they can be strengthened and tightened, then perhaps they would be fit subjects for a bridge. Perhaps Dr. Reitz can explain more fully his reason for putting a bridge on loose teeth even temporarily.

Perhaps I may be allowed to elucidate that

Dr. Reitz. point. I spoke of partial dentures, and that really

has been apart from the subject under discussion. I meant that sometimes, to gratify a whim of a patient for a short period, we will do things against our better judgment in putting in plates, and for that reason I have more or less charity in regard to the cases which come in with bridges on loosened teeth. What I referred to was a piece put in with rubber attachment. In reference to devitalizing the teeth, I had in mind simply the teeth that are banded, or are used as abutments for permanent or removable pieces. A very large share of my work at the present time is done on the Bonwill principle, in which formerly a groove was made in the tooth clasped. Now the cast inlay may often be used in an abutment without devitalizing the tooth, and that I consider more advantageous.

We have with us a gentleman who is very **President Van Woert.** familiar with this work, and I know from the work I have seen from his hands that he is a master in the art. I take pleasure in calling upon and introducing to you, Dr. Charles Andrews.



ITEMS OF INTEREST

I believe I stand by the essayist of the evening
Dr. Charles Andrews, in regard to the devitalizing of the pulp. Dr. Reitz
New York. answered what the gentleman asked. I was going to

answer for Dr. Reitz if he had not done so, because I knew the previous speaker misunderstood him. I can only add to the commendation that has been expressed for the paper of the evening. I sometimes do these things which Dr. Reitz has mentioned, and I find a great deal comes back on me by trying to please my patients. I am one of those easy fellows. I do try to please my patients often against my judgment. I never try to hurry any of them for a financial end—I do not think I ever was guilty of that in my life—but I will hurry many times for my patients, because they are busy and want to get away, and it is probably just as wrong to do that. There is no excuse for it, and in many cases I find my failures in that line, by trying to please my patients. I think it is better for us to follow the line hard and fast, of working according to our judgment.

I do a great deal of removable bridgework, and I think I do a great deal more of it than I do permanent bridgework with anchorage. I do a great deal with gold inlays in small cases carrying one tooth. I do not think I can add anything further to the paper, with which I agree.

I will call upon one more gentleman. He does
President Van Woert. a great deal of bridgework, and I know his experience is almost unlimited. He is beyond question one of the most conscientious operators we have in the City of Brooklyn to-day. He is one of our own members, and I see a great deal of the work he does. I know you will all be just as pleased as I am to hear from our good friend, Dr. Schmidt.

I came to this meeting about the close of the
Dr. J. Schmidt, paper, therefore I am not able to discuss it. One
Brooklyn. thing I did hear Dr. Peeso bring out was the devitalization of the pulp. I thoroughly agree with him, after years of experience with crown and bridgework, and seeing the bad results of not having removed them, and I now almost invariably remove the pulps. There are a few instances where I do not—take, for instance, a tooth that is of a favorable shape and fully developed, so that it is not necessary to grind off the enamel. I have the enamel protecting the tooth, and I feel I might go ahead and crown that tooth; but where I must take the enamel off, I feel I must devitalize the pulp, or expect devitalization of the pulp to occur afterward, or perhaps pulp nodules and their sequellæ.

As to what Dr. Hamlet said, I have tried very faithfully to insert bridges with gold inlays—the solder inlay first, and then the cast



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inlay—and I have seen small bridges that have done good service, and others that have been failures. I recall one case of a second molar carrying the second bicuspid—the second bicuspid was missing, and the second molar had a large amalgam filling. A large cast inlay was placed in the molar, with an inlay in the first bicuspid. That gave way. I cemented it in, and it again gave way. I then devitalized the pulp in the molar and made a larger inlay and a pin, and even that gave way. Finally, I put a gold crown on, and that bridge is there now.

I have still another case in mind, of a lower molar missing—a large inlay in the second molar and in the second bicuspid. That went along for about a year, and then that was loosened. I reset it on two occasions, and I finally devitalized the pulps in the molars and bicuspids, and put cast inlays with pins, and that bridge is still there. When you have a bridge retained by a crown that takes hold of the tooth in the usual method, in spite of movement of the natural teeth, there is nothing to break away. Because of this movement of the teeth inlays will fail unless very securely anchored. I have not as much faith in the removable bridges as I had formerly.

I know Dr. Peeso and his work. You do well to follow his teachings, and you make no mistake, because he has had a large experience.

I have among my acquaintances in New York

Dr. Tracy. some men who argue that in small bridges we should construct them so that the individual mobility of the

abutments should be maintained. Is there any advantage in maintaining this individual mobility of the two abutment teeth? Should we construct a small bridge with dummy firmly attached to one pier, but with a lug resting upon the other, but not immovably attached, so that in case of the individual movement of the teeth there is a possibility of slight play? I think that might meet Dr. Schmidt's case where the inlay pulled out.

When using cast inlays holding small bridges

Dr. Schmidt. I have followed that method. I want to speak of using bridges as splints. I have practiced that, and

know of one case where a bridge of ten teeth on six roots has been in place seven years.

As I have made a statement regarding the gold inlay I want to cite a case in my own practice, and if Dr. Malcolm is in the room, perhaps he will bear

me out in what I am claiming. In 1887 I went with two other gentlemen to a clinic of the Pennsylvania Society. I had the models to make a porcelain bridge, consisting of two porcelain teeth and a crown—all porcelain. I inserted that bridge in 1887, after my return. I made it there in a coke furnace. I set it after coming home, and the pier attachment



which I wish to emphasize is simply a bar extending into the molar, with a gold filling packed around it. The crown was set in place—I cannot just remember what teeth they were—but that bridge Dr. Malcolm told me is still in the mouth of that patient, because the patient is now under his care. Nothing has been done with it except cleansing the root and the bicuspid where the crown is set has become a little exposed on account of the recession of the gum.

That is not an analogous case at all. A bar ex-

Dr. Ottolengui. tending into the tooth is, I think, not even comparable to an inlay set in with cement. That method of Dr. Hamlet has been used in the practice of a great many men, but this inlay, which is a part of the bridge, and is set at the same time as the bridge is cemented, is an entirely different proposition.

Dr. Hamlet. I should think it was the equivalent.

The difference is that the bar may be loosened from the filling, and with increasing play allows increased movement, and greater leverage to dislodge the surrounding filling. The inlay abutment is a fixed part of the bridge, and when correctly seated can not loosen. The difficulty is to get a sufficiently strong seating of the inlay.

In regard to the question of Dr. Tracy, in speak-

Dr. Peeso. ing of inlays, as a general thing in a case of this kind, where we have a bridge bringing in a couple of fair-sized molars, I would very seldom risk making the inlay solid and connected with the bridge, because there is a certain amount of lateral motion and, I think, if there is very much stress, that would loosen or fracture the tooth. In a case of that kind I never calculate to have the inlay soldered or connected firmly to the tooth. The lug, if it were made to lock nicely, I think would be an excellent thing. Very often, in making a short piece, especially in the lower, I place an inlay in one pier and countersink it. That allows a slight lateral movement of the piece, which will keep the teeth perfectly healthy. I do not think I have ever seen a piece of bridgework in the mouth for any length of time—of any size at all—where there has been a bar cemented into another tooth that has lasted for more than a few years. The bar being built in solid, there is a lateral motion that has eventually loosened the bar, or the filling itself, and often I have seen the tooth fractured. In short pieces in the lower jaw, I think, it is an advantage to have one end separate and not attached to the inlay.

In regard to the crowning of vital teeth, we all know we do not destroy the life of the tooth when we remove the pulp. The success of all operations depends upon the thoroughness with which they are done.



SOCIETY DISCUSSIONS

In removing the pulp from a tooth, unless that is done thoroughly, and the tooth thoroughly sterilized, there are putrefactive changes that will take place that render the tooth subject to future troubles. The tooth must be thoroughly sterilized and taking the agents we have to-day, the organic matter that is in the tooth is coagulated or tanned, which really, I think, has a tendency to strengthen the tooth and bind the parts together. On the contrary, if there are putrefactive changes taking place, it has a tendency to attack the tooth structure and result in trouble. The whole result in this, as in other parts of the work, depends upon the thoroughness with which the work is done. We cannot hope to do any part of the work in a half-hearted or haphazard manner and expect the work to be lasting.

In the matter of crowning loose teeth—in speaking of it as I did in the paper—I did not mean there are not many instances where these teeth may be connected with perfectly sound teeth with advantage, and be retained for many years. There are many instances, as have been cited—I have had them—where a patient would do anything to put off the evil day of wearing a plate. They say, "If you could only put in something for me, if only for a year"—and in those cases I think we are justified in doing such things; but we should have a perfect understanding with the patient. Unless I felt sure a bridge would last seven, eight or ten years, I would not care to place one, unless it were for an elderly person.

I remember a number of years ago reading in the *California Dental Journal* where some writers said that if bridgework lasts three or four years it is all that can be expected of it, and the dentist has fulfilled his obligation to the patient. To me that would be a dead failure.

As Dr. Tracy was speaking, I thought that many times bridgework is used when a plate would be better. He says a good plate is better than an indifferent bridge; but I think bridgework properly done, and used only where it is indicated, is by far the best of anything that can be put in the patient's mouth. There is nothing that so nearly approaches Nature. If it is used where it is not indicated there is nothing worse. There is nothing that will sooner ruin the abutments and the rest of the mouth as well. If we are conscientious and do the best we can, as I am sure everyone of us who takes an interest in dentistry does, we will have nothing to regret.

I thank you very much for the kind attention you have given me, and the reception I have had this evening.

A hearty vote of thanks was tendered to the essayist, and to the gentleman who discussed the paper.

Adjournment.



The New Army Dental Corps Bill, and the Surgeon-General's Opinion Thereon.

A new bill, having relation to the status of the dentists in the army, was introduced into Congress by Mr. Wiley on March 16, and duly referred to the Committee on Military Affairs. Elsewhere in this issue we publish the text of the bill, together with a "Memorandum" thereon from the office of the Surgeon-General.

While this bill does not offer as much as the dental profession may desire, it does provide for so much that it should elicit the undivided and active support of the entire dental world.

In brief, it creates a new corps, in the proportion of one dental surgeon to each one thousand of the enlisted strength of the army. This new corps is divided into two classes, Acting Dental Surgeons, and Dental Surgeons. The status of the Acting Dental Surgeon will correspond to that of the existing Contract Corps, and newly appointed men must serve for three years before becoming eligible to appointment as dental surgeons, with the commissions of First Lieutenants.



There are two points to be noted in connection with this bill. Unlike its predecessors, it has been drawn by the department, and not by a Committee of the National Dental Association. A prophecy that some such bill, offering commissioned rank to the army dentists, would soon be presented as a departmental measure, was made at the Boston meeting of the National Dental Association, and said prophecy was received with scepticism.

The second and most interesting feature is that in Section 5 of this Departmental Bill we find the following words: "That the Dental Surgeons attached to the Medical Department at the time of the passage of this act may be eligible for appointment as First Lieutenants, dental corps, without limitation as to age."

At the same Boston meeting it was likewise claimed that a provision of this kind would not be opposed by the department, and it was pointed out that an exactly similar clause appeared in the Medical Re-organization Bill, passed by the last Congress. In spite of this perfectly logical argument, this contention was met with sneers and ridicule, and it was intimated to the Executive Council, in the presence of a large audience, that such notions resulted from utter ignorance of matters legislative and military.

Now that a bill, indorsed by the Medical Department of the Army, provides for the appointment of members of the present dental corps, without limitations as to age, the dental profession may draw its own conclusions as to whether the opposite, and constantly iterated contentions of former National Association Committees, have been based on ignorance, incompetency or some other cause.

Certain is it that the present provision is a wise one. In common justice to the men who have already served so long, and who have stood the brunt of the first fight to prove that dental service would benefit our soldiers, and likewise in the interest of the soldiers themselves, and of the army as a whole, it is wise; nay, it is essential that if a commissioned corps is to be formed, the first appointments should go to those who have had experience.

There is quite a difference in creating a new corps, and in making appointments to already-existing branches of the army. In the latter, the ranking officers all have seen service and have both age and experi-



ence. It is, therefore, fitting that the ranking officers in the Commissioned Dental Corps should come from the present Dental Corps, of men with experience, rather than to make appointments from men of immature age and no experience. It is, consequently, a wise provision to create the grade of "Acting Dental Surgeons," in order that men may gain some knowledge of the requirements of army service before being regularly commissioned.

The Surgeon-General's Argument. The memorandum presented by the Surgeon-General is exceedingly instructive and should be carefully read by all who are at all interested in the advancement of the dental profession. This document affords a fair idea of the status of the dentists, as viewed from the army medical standpoint. It discloses the fact that the dentist takes himself and his services much more seriously than do these medical men. It raises the question, therefore, as to the true value of dental service in relation to general health, and in these days of extravagant (?) claims, set forth by those who are fostering the propaganda for oral hygiene and compulsory dental service in the public schools this discussion by so prominent a medical man as Surgeon-General Torney is most timely.

The General's argument is so fair throughout that the writer must believe that he will be entirely willing to have some of his deductions discussed.

Let us then consider, especially that portion of his memorandum which deals with the effect of dental service upon the general health of the soldiers.

General Torney introduces for comparison two sets of statistics, one covering five years, 1893-1897, prior to the utilization of dentists, and the second, a similar term, 1903-1907, after the employment of dental surgeons. The result of this statistical investigation (see table) is that there was a decrease of the diseases enumerated, amounting in all to an annual rate of 16.6 admissions per 1,000. From this the Surgeon-General believes that "the activities of the dental surgeons have resulted in some, though not a very marked, improvement in the health of the army." But he very correctly points out that a part of this may be attributable to the improvements in water supply, food and cooking.

The writer begs respectfully to call the attention of the Surgeon-



General, and to other students of the relation of dental service to general health, to what he considers to be errors in these tabulated statistics, and to point out that they are wholly misleading as a basis for determining the true effect of dental service upon the health of a given body of men.

In the first place, however extravagant may be the claims of dentists in relation to dental service as a preventive factor in connection with pathological conditions, no dentist having any knowledge of the truth, would contend that the partial treatment of the teeth of a limited number of individuals, in a stated number of men, would materially lessen the ratio of disease for the total number of men. Dr. Marshall, in his communication quoted by the Surgeon-General, tells us that the present Contract Corps has never been able to do more than one-third of the dental work needed at the posts; that they "have never been able to complete more than the emergency service required at any one post."

Some of this "emergency" work, under the restrictions of army dentistry, mainly due to an inadequate number of dental operators, means "extraction." In other mouths it means merely the treatment and filling of actually aching teeth, and the neglect of other teeth, though diseased. Only a limited number of the soldiers have been treated at all, and of these only a more limited number have had even one-half of the needed work done, the suffering of other men causing them to yield their places. It is not claimed by the dental profession that this sort of dental service will greatly improve the health of the patient, though, of course, the relief from actual pain will largely increase his comfort, and consequently make of him a more useful unit.

But if it be desired to learn to what, if any, extent the Dental Corps has improved the health of the soldiers, instead of comparing the entire army, before employing dentists, with the entire army since that time, it would be more accurate to compare the general health of the men who have actually passed through the hands of the dental surgeons, with those who have not been treated at all. Such statistics would be more accurate, as dealing with men enjoying exactly similar water supply, food, cooking and general environment. But even such an inquiry would not be absolutely accurate, because among the untreated men we would undoubtedly have many, of such robust health that their records would greatly improve the general average for the whole number in which they were included,



whereas the men treated by the dental surgeons would all represent men at least tainted by dental disease, and already suffering with organic weaknesses resulting from having had bad masticating apparatus.

One reference to the table appears to substantiate this argument. Under diseases of the teeth, gums and alveolus, we find that the rate was 11.10 during the first period, and 9.92 during the employment of dentists. Thus we find that diseases of the teeth, gums and alveolus were only reduced one-tenth during the employment of dentists. Does this not prove that the dental service has been wholly inadequate? How then can it be charged against dentistry, that little has been accomplished by the Dental Corps to improve the condition of the soldiers? That there has been any improvement at all is greatly to the credit of these thirty men. The responsibility lies with a stingy Congress and departmental restrictions, not with the dental profession.

The Surgeon-General tells us that in the City of Washington there is one dentist to every 531 of population, but he does not think that so many will be needed in the Army, for he says:

"The military population being chiefly under forty-five years of age and in the prime of life, will not need as much work of this character as the civil population."

In this matter we would respectfully point out that the Surgeon-General is not fully informed. In civil practice just about ninety per cent. of all dental service is rendered for persons under forty-five years of age. But, again, it is scarcely possible for any one dentist to properly care for the teeth of 531 persons, the proportion for the City of Washington quoted by the Surgeon-General. There would be twice as many dentists in that city if all the inhabitants regularly cared for their teeth.

The Surgeon-General further states that "the teeth of applicants for enlistment are carefully examined, and those with teeth in bad condition are rejected, so that the military population in this, as in other respects, are much healthier than the average civil population."

With all due respect we must point out that the Surgeon-General is in error here. An investigation made a little over a year ago shows that no less than eighty-four per cent. of the recruits at Fort Slocum were found to be in need of dental service. Perhaps there is need of a dentist on the physical examination board.



The above statement of the Surgeon-General, however, indicates that he appreciates that it would be an advantage if the teeth of the soldier were in positively good condition upon entering the service. About two years ago the writer visited Fort Slocum, and the dental surgeon then at that post declared that it would be greatly to Uncle Sam's advantage if no recruit were permitted to enter actual service until his teeth should have been placed in perfect condition; but he pointed out that to do this would require at least three, and possibly four, dentists permanently located at Fort Slocum alone. Similar conditions probably prevail at other recruiting stations.

Later the Surgeon-General quotes from a bill proposed for the Navy which provides for one dentist to every 1,500, and from this logically deduces that at the same ratio 57 dentists for the Army "would meet the pressing needs of the service." That the Surgeon-General could with any justice make such a deduction, is largely traceable to the fact that National Association Committees have been stupid enough to accept such propositions for the Navy without protest.

The truth is that the most economical scheme for the Army and the Navy would be the adoption of dental corps of adequate strength, rather than an inadequate number, which at best could serve only the "pressing needs of the service."

**Status of
Present Corps
Unsatisfactory.**

Discussing the question as to whether or not commissioned rank would attract better dentists or make them more willing to remain in the Army, the Surgeon-General states that only six have resigned, and that of the thirty-one now in service twenty-

six have served more than five years, and twenty-two have served more than seven. From this the Surgeon-General deduces that: "This would not seem to indicate such a degree of dissatisfaction or unrest as to seriously interfere with the good of the service."

Here there are one or two points overlooked by the Surgeon-General. In the first place, when the majority of men now in the service accepted their appointments it was almost with the promise that commissioned rank would come later. Secondly, ever since that time the dental profession has striven for a commissioned corps, and thus this hope has been always held before the eyes of the men in the Contract

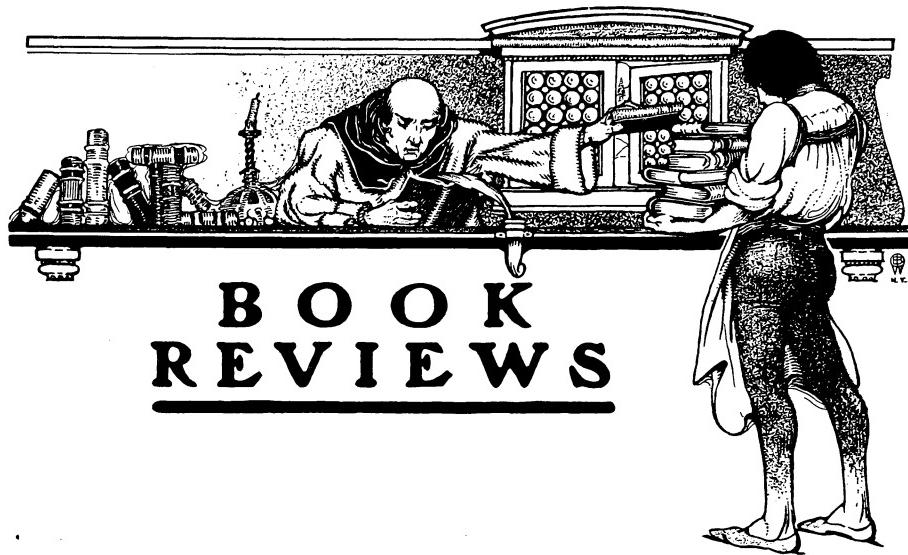


Corps. Once let it be determined definitely that there never will be a commissioned dental corps, and undoubtedly the present Contract Corps would rapidly dwindle by resignations and the lack of applicants to take their places. Lastly, the men now in the corps have two vital reasons for remaining, besides the hope that some day preferment may come. Many of them have entered the Army because of a predilection for military life. But what is more potent is the fact that because of the nature of the service, and the great number of men that must be treated in inadequate time, the services rendered are of that order that would be least remunerative in private practice. The Dental Corps men have only slight practice in gold work, either in operative or prosthetic practice.

Thus they have not improved their finger craft, nor have they been able to keep pace with the advancement that has occurred in all lines of work where the precious metals are used. The few men who have resigned have found themselves handicapped by the very fact that they have been in military service. To make a success of civil practice, these men have been compelled to take post-graduate courses of study before opening offices.

Complaint has been made in certain quarters in the past to the effect that the examinations of candidates for places on the Contract Corps have been too medical in character. A careful perusal of the latter part of the Surgeon-General's communication will disclose the fact that a dentist in the Army who had not passed a good examination in medical branches would be held in very slight esteem.





BOOK REVIEWS

Practical Dentistry by Practical Dentists.

Complied and Edited by I. NORMAN BROOME^L, D.D.S., Philadelphia: The L. D. Caulk Co., Publishers, 1908.

Up to the time of his death, Dr. B. H. Catching, of Atlanta, issued yearly a publication which he called "Catching's Compendium of Practical Dentistry," in which was compiled, in condensed form, articles of practical interest, formulas, etc., culled from dental and other publications of all countries.

To the busy practitioner such a volume is naturally of great value, and the popularity of Dr. Catching's books is attested by the fact that they are now easily disposed of at a premium.

Dr. Broomell, with his "Practical Dentistry by Practical Dentists," puts before us a volume of the same general type as Dr. Catching's works, covering every branch of practical dentistry, with brief, well-chosen excerpts from all the leading dental journals.

It is practically a well-arranged collection of memoranda containing the important points, formulas and theories advanced by our leading essayists during the last decade; the separate items numbering nearly 2,500.

The author's classification is good; items concerning each subject being grouped together under a suitable heading, and, taken altogether,



it is, in the writer's opinion, a book of reference of such value that no dentist or student can afford to be without it.

The fund of knowledge which is boiled down in its 495 pages is, as the author states in his preface, "not the product of a few, but practically the product of the whole profession, covering its science, its art, its theory and its practice."

The book is marred by the fact that there are not a few instances of repetition, one article appearing four different times in the text. First editions are seldom free from editorial errors, however, and these will doubtless be eliminated when the work is revised.

E. N. K.

The Dental Student's Technical Course in Rhyme.

By J. T. TUNNOCK.

Published by the Author, 1909.

This work is a decided novelty in text-books, and is no doubt the result of much labor on the part of the author in his endeavor to present the most important subjects in the dental curriculum in such form that they might be easily memorized.

It is a well-known fact that rhyme is much more easily memorized than prose, and it is very probable that the subject-matter contained in this work could be mastered word for word much more easily than if it were not rhythmically arranged, and so the author has evidently accomplished his object, which is more than some authors do.

It is the writer's opinion, however, that the general scheme is based on an entirely wrong principle.

Far too many students go to their examinations with brains crammed full of words, not ideas. They can repeat whole sentences, paragraphs, even pages, parrot-like, without really thinking what they are talking about, and if interrupted in the recitation of one of the little pieces they have memorized they would have to begin all over again.

In a kindergarten class such methods may be excusable, but to a class of men who are supposed to be seeking knowledge they wish to retain beyond examination day such tactics should not appeal.

Lasting knowledge on such a subject as anatomy, for instance, can best be acquired and retained through "mental pictures." The student should aim to impress his mind's eye with a clear view of the organ or part, its relation to all contiguous parts, and other necessary details, and



BOOK REVIEWS

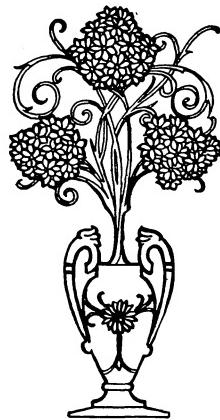
with this picture ever at the call of his will very little memorizing is necessary as he can easily describe what he sees, and these pictures he can carry with him to the classroom as elsewhere.

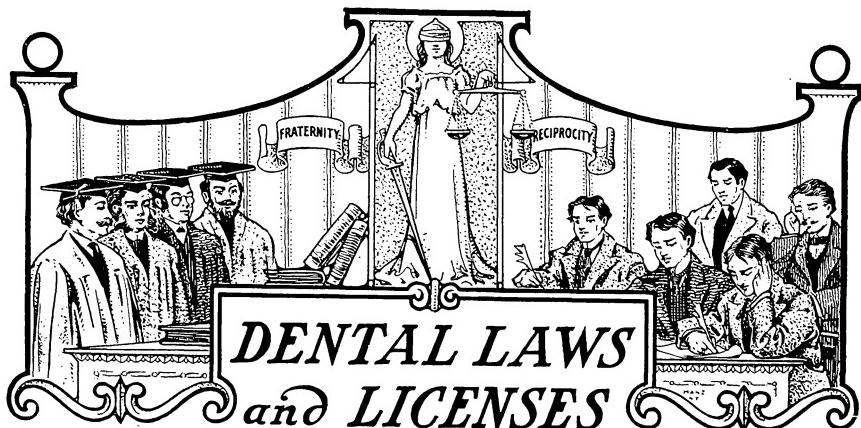
Memory alone has more than once pulled men through examinations, but the result of the examination in such cases does not indicate the students' actual knowledge of the subject.

In this book the distortion of phrases and sentences made necessary in rhyming, renders the subject-matter far from clear or easy to comprehend and this gives us a very bad combination. It puts the subject before the student in a form hard to understand, but easy to memorize and repeat.

A book arranged in accordance with any scheme or system the sole purpose of which is to help a student or State board candidate through his necessary examination without having fully digested the subjects covered we do not consider a valuable addition to dental literature.

E. N. K.





New Army Dental Corps Bill.

61st Congress, 2d Session. H. R. 23097.

IN THE HOUSE OF REPRESENTATIVES.

MARCH 16, 1910.

Mr. Wiley introduced the following bill; which was referred to the Committee on Military Affairs and ordered to be printed:

A Bill.

To improve the status and efficiency of dental surgeons in the United States Army.

1 *Be it enacted by the Senate and House of Representatives of the*
2 *United States of America in Congress assembled, That for the pur-*
3 *pose of securing an efficient dental service in the army there should*
4 *be attached to the Medical Department a dental corps, which shall*
5 *be composed of dental surgeons and acting dental surgeons, the total*
6 *number of which shall not exceed the proportion of one to each*
7 *thousand of actual enlisted strength of the army; that the number*
8 *of dental surgeons shall not exceed sixty, and the number of acting*
9 *dental surgeons shall be such as may, from time to time, be authorized*
10 *by law in accordance with the needs of the service.*

1 SEC. 2. That all original appointments to the dental corps shall
2 be as acting dental surgeons, who shall have the same official status,
3 pay, and allowances as the contract dental surgeons now authorized
4 by law.



ITEMS OF INTEREST

1 SEC. 3. That acting dental surgeons who have served three
2 years in a manner satisfactory to the Surgeon-General of the Army
3 shall be eligible for appointment as dental surgeons, and, after pass-
4 ing in a satisfactory manner an examination which may be prescribed
5 by the Surgeon-General, may be commissioned with the rank of first
6 lieutenant in the dental corps to fill the vacancies existing therein.
7 Officers of the dental corps shall have rank in such corps according
8 to date of their commissions therein and shall rank next below officers
9 of the Medical Reserve Corps. Their right to command shall be
10 limited to the dental corps, and they shall be entitled to the respect
11 and obedience of all enlisted men.

1 SEC. 4. That the pay and allowances of dental surgeons shall be
2 those of first lieutenants not mounted, including the right to retire-
3 ment on account of age or disability, as in the case of other officers:
4 *Provided*, That the time served by dental surgeons as acting dental
5 or contract dental surgeons shall be reckoned in computing the in-
6 creased service pay of such as are commissioned under this Act.

1 SEC. 5. That the appointees as acting dental surgeons must be
2 citizens of the United States between twenty-two and thirty years of
3 age, graduates of a standard dental college, of good moral character
4 and good professional education, and they shall be required to pass
5 the usual physical examination required for appointment in the Medi-
6 cal Corps, and a professional examination which shall include tests
7 of skill in practical dentistry and of proficiency in the usual subjects
8 of a standard dental college course: *Provided*, That the dental
9 surgeons attached to the Medical Department at the time of the
10 passage of this Act may be eligible for appointment as first lieu-
11 tenants, dental corps, without limitation as to age: *And provided*
12 *further*, That the professional examination for such appointment may
13 be waived in the case of dental surgeons in the service at the time of
14 the passage of this Act whose efficiency reports and entrance exami-
15 nations are satisfactory to the Surgeon-General.

1 SEC. 6. That the Surgeon-General of the Army is authorized to
2 appoint boards of examiners to conduct the examinations herein pre-
3 scribed, one of whom shall be a surgeon in the army and two of
4 whom shall be selected by the Surgeon-General from the commis-
5 sioned dental surgeons in the corps.

Memorandum for the Chief of Staff.

Being a study of the necessity for legislation conferring military rank on Dental Surgeons.

The arguments in favor of additional legislation which will give the dental surgeons in the Army the status of commissioned officers, with several grades, and also to increase their number, are fully and clearly



stated in a memorandum prepared for the Surgeon-General by Dr. John S. Marshall, Examining and Supervising Dental Surgeon, U. S. Army.

This memorandum is therefore quoted extensively, containing, as it does, all the substantial arguments which have been advanced in the extensive correspondence on file in this office. Dr. Marshall says:

**Dr. Marshall's Plea
for a Commissioned
Corps.**

"Time and experience, however, have developed the need of making certain changes in the organization of the Corps, in order to secure a more adequate dental service; to maintain the highest professional efficiency in the personnel; a proper degree of military supervision and command over the enlisted men of the Hospital Corps detailed for duty with the dental surgeons; of the patients placed under their treatment; and of a more economic administration of the Corps."

"The personnel of the Corps is altogether inadequate to perform the vast amount of dental service needed by an army of 65,000 to 70,000 officers and enlisted men, and in order to place the benefits of this service within the reach of all, the Corps needs to be increased very considerably.

"The Corps, as now organized, offers no attractions in the way of rank, promotion or retirement, to induce those already in the service to remain and devote their lives to it; nor for the better class of young dental surgeons in civil life to seek admission to the Corps.

"The changes in the organization of the Dental Corps which are suggested as necessary to remove these defects are:

An increase in the personnel of the Corps adequate to the needs of the service. This increase, it is believed, should not the mean strength of the Army. At the present time the Contract Dental Corps consists of thirty members, while the average strength of the Army is between sixty-five and seventy thousand. The dental surgeons have never been able to perform more than from thirty to fifty per cent. of the dental work required at the posts where they have been stationed, from the fact that the demands for emergency treatments have been so constant from the other stations in their districts that they have never been able to complete more than the emergency service required at any one post.

"It is the general opinion among members of the Corps, and this opinion is based upon an army experience of between three and four years, that an adequate service would require a much larger corps of dental surgeons than that suggested, of one to one thousand of the mean strength of the Army.

"In civil practice it is generally estimated that a dental surgeon can not care for more than four or five hundred regular patients in each year; it is therefore evident that the present force of dental surgeons is much too small for the demands of the service.

"The Surgeon-General's Report for 1903 shows that the contract dental surgeons operated upon 16,161 officers, enlisted men, female nurses and general military prisoners, or twenty per cent. of the mean strength of the Army for that year, and that they performed 49,483 operations. This great amount of service has required many of the dental surgeons to work far beyond the official hours prescribed by Army regulations for long continued periods. This faithfulness to duty and the efficiency of



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their service has called forth the unqualified commendation of many experienced officers. The statistical report of the Surgeon-General for the year 1904 shows that the number of dental and oral diseases treated by the dental surgeons was 42,974, and that 47,616 operations were made, including fillings, crowns, bridges and artificial dentures.

"A commissioned status with a reasonable number of grades is absolutely necessary to induce the better class of dental surgeons to enter and remain in the service."

"The contract system as applied to professional men in the United States Army has never been satisfactory for the following reasons: (a) The inducements offered are entirely inadequate to attract, with few exceptions, any but young and inexperienced practitioners, many of whom enter the service for the sake of the experience, and have no idea whatever of remaining beyond the term of their contract; while those who would be glad to remain in the service and make it a life-work, find, to their regret, no inducements that are equal to those which are offered in a civil practice or other departments of the service; consequently, the most valuable men sooner or later become dissatisfied and leave the service. This, however, applies with greater force to the contract dental surgeons, because of the fact that there is no provision whereby the dental surgeon can enter a commissioned dental service; while with the contract surgeon, if he desires to enter the regular medical service, the door is open to him by way of the regular examination for the commissioned personnel of that corps.

"(b) The frequent changes which occur in a contract corps are not conducive to the best interests of any branch of the military service in which special attainments, superior professional skill, and a high degree of efficiency, are especially desirable; nor can it be expected that any organization or corps suffering from frequent changes in its personnel can ever reach its highest efficiency. Its general efficiency will always be kept down to the level of the least efficient unit in it.

"(c) With a commissioned status and a reasonable number of grades and prospects of promotion, the most serious objections to entering the Dental Corps would be entirely removed, and the Government could confidently expect to secure the better class of practitioners having ability, skill and experience, for the service in the Dental Corps, while those men now in the Corps would be stimulated to their best endeavors in professional progress and efficiency.

"The position of the contract dental surgeon, officially and socially, by reason of his *peculiar* connection with the Army, is not a desirable one to a man of proper spirit and legitimate pride in his profession. The uncertainty of his tenure of office, the lack of proper dignity and authority denied him by reason of his status as a civilian in a military organization; his ungracious and undignified title; and the uniform which, by Army regulations, he is compelled to wear, and which has recently been carefully stripped of all insignia of official rank and honorable distinction, are all potent factors in the discontent and unrest which is very manifest in the Corps, and which will prevent the organization, under its present status, from ever reaching that high efficiency in service which it is capable of reaching under military organization with proper physical and professional

examinations for promotion. The dental surgeon very naturally feels that as inasmuch as he holds a university degree in an honorable profession, obtained after long study and at great expense, that he ought not to be debarred from such military rank and privileges as are accorded to other officers in the service with like general culture and of special professional attainments.

"The dental surgeons, under their present status, have to carry all the responsibilities of the commissioned officers in property accountability; the command and discipline of Hospital Corps men assigned to duty with them; and boards of survey, etc.; in fact, all the responsibilities imposed upon commissioned officers, except sitting on court martial and making contracts for the Government, and this without the military rank or the privileges accorded to other officers of the regular service.

"In relation to the question of contract service counting as commissioned service for longevity pay and retirement, the members of the Dental Corps feel that inasmuch as there has been no such privilege or opportunity for them to enter a commissioned service such as is provided for the contract surgeon, it is therefore only fair and just that their contract service should be credited to them in the manner provided for in the accompanying Bill."

The above arguments may be briefly summarized as follows:

1. That the service of dental surgeons are necessary to the comfort and health of troops.
2. That the present number attached to the Medical Corps is quite inadequate to perform the necessary dental service for the Army.
3. That a commissioned status with a reasonable number of grades is absolutely necessary to induce the better class of dental surgeons to enter and remain in the service.

Dental Service Desirable. The desirability of dental service to the Army is generally admitted by both medical and line officers.

The English in the Boer War found them of much value at the base hospitals. Men are made comfortable and fit for duty, who would otherwise be uncomfortable, if not sick, and the loss of molars essential to proper mastication is prevented, or those lost can be replaced.

As regards the claims brought forward as to the injurious influence of defective teeth upon the general health and their influence as a provoking cause of various diseases, broad claims are made. A study of the morbid statistics of the Army for a period of five years immediately preceding the Spanish War and for a like term of years after the employment of dental surgeons (for troops in the United States only) has been made with reference to certain diseases, for which the claim has been advanced that they are caused by the absorption of pus or other infectious matter from diseased teeth or gums. The following table exhibits the results of this investigation:

	1893-1897	1903-1907
Anemia, per thousand of mean strength....	.67	.55
Epilepsy	1.15	3.34
Neuralgia	17.19	9.44
Diseases of the Salivary Glands.....	.11	.14

Diseases of Teeth, Gums and Alveolus.....	11.10	9.92
Diseases of Mouth and Tongue.....	.60	1.25
Dyspepsia	27.20	30.88
Gastritis	3.09	11.59
Diarrhea, Acute	79.44	51.57
Diarrhea, Chronic.....	.71	.99
Enteritis	1.91	8.01
	<hr/>	<hr/>
	143.17	126.59

N.B.—To equalize conditions, stations in the United States only have been taken.

This shows a decrease in these diseases amounting in all to an annual rate of 16.6 admissions per 1,000. If it be assumed that other factors are the same or counterbalance each other, this shows that the activities of the dental surgeons have resulted in some, though not very marked improvement in the health of the Army. It should be borne in mind, however, that in the fifteen years covered by these statistics, there have been marked improvements in the water supply, rations, and cooking of the troops, with which the credit for this improvement must be shared.

It is quite certain that the present number of dental surgeons is inadequate except to furnish treatment of a temporary or first aid character. The

proportion of dental surgeons to the strength of the Army is at present one to 2,740. This does not include the civilian employees of the Army, or the families of officers and enlisted men.

These, who compose 20 per cent. of the military population, are not entitled to dental treatment, although they are entitled by custom, and under certain circumstances by law, to medical treatment. A considerable amount of dental work is done for them, however, out of hours. It can be safely stated, therefore, that each dentist in the Army is at present doing, or attempting to do, the emergency work for a population of 3,000. By way of comparison it may be stated that there are in the City of Washington 639 dentists for a population of 339,000, giving a proportion of one to 531. Even with an enlarged dental corps it is probable that there will always be some restrictions as to the more elaborate and costly construction work and furnishing of artificial dentures. Also, the military population, being chiefly under 45 years of age and in the prime of life, will not need as much work of this character as the civil population. Then, also, the teeth of applicants for enlistment are carefully examined and those with teeth in bad condition are rejected, so that the military population is a selected one in this, as in other respects, and are much healthier than the average civil population.

The 31 dental surgeons of the Army during the fiscal year 1908 treated 37,508 cases, being an average of 1,210 patients per year, or 4 patients for each working day. As a number of working days are spent in travel, the number actually treated each day is presumably somewhat larger.

All the bills introduced with reference to dental service of the Army



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have mentioned a proportion of one dental surgeon to 1,000 of the authorized strength as a maximum limit of number. This would provide, at the present strength of the Army, 85 dental surgeons, which would allow one at each post of four or more organizations in the Army. To give each man in the service one treatment a year would require a corps of 70. The most recent bill for dental surgeons in the Navy provides 30, which is in the proportion of one for about 1,500. There is no doubt that the largest figure would be ample, and it is probable that the naval proportion of 57 would meet the pressing needs of the service.

Need of Commissions. The third proposition is "that a commissioned status with a reasonable number of grades is absolutely necessary to induce the better class of dental surgeons to enter and remain in the service." The

arguments advanced in support of this contention are, in brief, that the contract system is unsatisfactory, officially and socially, and not such as befits members of a learned profession; that dentistry, being a branch of medical science, is a learned profession; that the inducements offered are inadequate to attract any but young and inexperienced men; that the best of these become dissatisfied and leave the service; that the uncertainty of his tenure of office, the lack of dignity in his position as a civilian in a military body, his undesirable title and uniform, are all factors provocative of discontent and unrest; that this results in resignations and a consequent change of personnel, which are detrimental to the service. A commissioned status with possibilities of promotion through several grades is claimed to be the logical and only remedy.

Dental surgeons in the Army are paid \$1,800 per year. They are entitled to the transportation and fuel allowances and to the quarters in kind of a First Lieutenant. They are entitled to the same protection in their positions and the same respect and obedience from enlisted men as commissioned officers (A. R. 1,410). During the last eight years 42 dental surgeons have entered the service. Of these 1 has died, 1 has left the service because of ill health, and 2 because their services were unsatisfactory; 1 has accepted a position in the line of the Army, and 6 have resigned at their own desire. Of the 31 now in the service 26 have served more than five years, and 22, 7 years or more. This would not seem to indicate such a degree of dissatisfaction or unrest as to seriously interfere with the good of the service. Nor from the very good showing made by the dental surgeons, according to the reports of the Surgeon-General and the statements of Dr. Marshall and his confreres, does it seem that the dental surgeons who have come into the service under present conditions are unsatisfactory in character. That a commission is desirable can not be disputed, but that it is essential to the dental surgeon for the proper performance of his work has not been demonstrated either by experience or by the great mass of argument on file in this office.

It will be observed that the American Dental Association at the last session of Congress strenuously advocated the appointment for the Navy of dental surgeons with less pay and no greater permanency in their position than these Army dentists, whose position is declared to be unsatisfactory. It is true, however, that they urged an amendment, which



was accepted by the Surgeon-General of the Navy, providing, after three-years' service as Acting Assistant Surgeons, for appointment with the rank of Assistant Surgeon, which corresponds to First Lieutenant in the Army Medical Corps. In the enthusiasm of their advocacy of an improved status, the representatives of the dental profession have advanced some claims which require notice. Dr. Marshall says:

"The dental surgeons, under their present status, have to carry all of the responsibilities of commissioned officers in property accountability; the command and discipline of Hospital Corps men assigned to duty with them; and boards of survey, etc.; in fact, all of the responsibilities imposed upon commissioned officers except sitting on court martial and making contracts for the Government, and this without the military rank or the privileges accorded to other officers of the regular service."

Let us compare for a minute the professional and administrative responsibilities of dental surgeons with those of the medical officers.

The medical officer from his entry into the service has to face the responsibility that upon his accuracy of diagnosis, promptness of action or professional skill, may depend the tremendous issues of life and death. He never knows when nor how suddenly may come the hour which will test to the uttermost his courage, knowledge and professional skill. The careers as well as the health and lives of all the army come under the professional judgment of the medical officers who must approve them for admission to the service, and for their promotion as officers, and for their physical fitness to continue in the exercise of command. As regards administrative responsibility, the medical officer commanding a base hospital has absolute professional and military control over 500 helpless sick, 200 attendants, 20 medical officers and an administrative staff. It is his responsibility to procure them food, clothing, pay and medicines and all other necessities. Upon his administrative ability directly depends the successful administration of this great organization and the comfort of its inmates. To successfully meet these responsibilities requires special training and long experience. To compare with these the professional responsibilities of an aching molar, the administrative supervision of a dentist's chair, and the military command of a single assistant, brings the discussion to an inevitable *reductio ad absurdum*.

Dental and Medical Education Compared.

Nor is it much less so to bring into comparison the vast and ever-widening field of medical learning and research with the elementary medical course which is the educational basis of the mechanic art of dental surgery. If these claims should be taken seriously and the examination in anatomy, physiology, histology and therapeutics made the same for candidates for appointment as dental surgeons and for medical officers, it is to be feared that very few qualified dental surgeons would be found. It is only necessary to make a comparison of the examination papers of the two classes of candidates to make this evident. The newly commissioned physician, however accomplished he may be in his profession, has to learn the administrative methods of the service and the special requirements of military sanitation before he can become an efficient medical officer. The dental surgeon, however, as soon as he has learned how to prepare his reports and draw his pay,



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becomes at once as efficient as any other dental surgeon of equal professional skill, whatever his length of service. Moreover, the official relations of the dental surgeons are with individuals only; they have neither command of organizations nor dealings with them, while in their dealing with enlisted men they are, as we have seen above, entitled to the same protection in their positions and the same respect and obedience as commissioned officers.

It seems evident, therefore, that the reasons
Commissioned Rank why commissioned rank in its several grades is
Not Essential. necessary for the administration of the great and complex organization of the medical service do not

apply to dental surgeons, and that commissioned rank is not, therefore, *essential* to the performance of their duties. Still less reason is there for the possession of the higher grades, since the dental service of the Army is without either complexity of organization or serious administrative responsibilities. An additional reason why any grade above that of First Lieutenant should not be given is that it would place the dental surgeons above the officers of the Medical Reserve Corps, with the result that the latter would become discontented and the medical service at posts where they are stationed would be disturbed. It is to be feared also that the elevation in rank of dental surgeons above the Medical Reserve Corps might not meet the approval of many distinguished physicians who have entered that corps and to whose sympathetic interest and assistance the Surgeon-General looks to secure well-qualified men for the vacancies in the Medical Corps. The cheapening in any way of these commissions which have been accepted by many of the leaders of the medical profession in the United States would be a grave misfortune for the service. While these reasons militate against the conferring on dental surgeons of any higher grade than First Lieutenant, they do not prevent the giving of that grade. It is believed, too, that the giving of this grade under like conditions as are proposed for the Navy will accomplish everything which is necessary to make the service more attractive. The possession of a commission, though not necessary to the performance of the duties of the dental surgeon, is undoubtedly a most desirable acquisition in military life. With the usual increase for length of service and the privilege of retirement for disability or age it would give, in addition to a more satisfactory official and social status, an immediate increase of pay to \$2,000, and the prospect of an ultimate increase to \$2,800. This, with the right of commutation of quarters where not furnished in kind, and the allowance of fuel and lights, is fairly equivalent of an income of from \$2,500 to \$3,300 in civil life. This will, it is believed, make the service sufficiently attractive to secure good men, and will not be open to the objections above stated, and to further objection of being in excess of what the sister service, the Navy, is willing to concede.

A draft of a bill along these lines is attached. The enlisted strength of the Army is not fixed, and fluctuates between an authorized maximum of 100,000, including the Philippine Scouts, and a minimum of about 65,000. If the number of dental surgeons is fixed by a definite proportion to the numerical strength of the Army, there must be some means of



reducing the number when the enlisted strength of the Army is reduced. This can not be readily done if the dental surgeons are given permanency of tenure by means of a commission, and it is not expedient, therefore, if commissions are given them—to commission more than enough for the requirements of the minimum Army. Provision for expansion can be made, and at the same time a probationary period of service established by the provision that all dentists entering the service shall serve the probationary period of not less than three years under contract as at present. From those who have served this period in a satisfactory way and thus given evidence of professional, moral and personal fitness for permanent incorporation into the official hierarchy of the Army, the commissioned force may be recruited as vacancies occur therein.

GEORGE H. TORNEY,

Surgeon-General, U. S. Army.

Dental License Requirements of Boards of Dental Examiners in the United States and Canada.

By ALPHONSO IRWIN, D.D.S.

Addenda.

Changes may occur any month in the Boards of Dental Examiners, their rules, requirements of dental law in some State or province, island or country, making frequent revision necessary. Kindly inform us of any changes or corrections promptly. Remember we print the requirements of sixty-five Boards of Dental Examiners and our correspondence covers the one hundred and thirty civilized nations of the world.

The following information was received too late to publish in the April number of the ITEMS OF INTEREST:

Examination required with or without diploma.

Idaho. Examination fee, \$25. No special examination granted to practitioners already in practice.

The Board exchange licenses with Utah and Montana.

Examinations June and December.

Board of Examiners: President, Dr. Wm. Youngberg, Cœur d'Alene; Secretary, Dr. J. B. Burns, Fayette; Dr. E. L. Burns, Boise; Dr. H. F. Kimball, Salmon; Dr. B. M. Brookfield, Idaho Falls.

For additional information, address Dr. J. B. Burns, Secretary, Fayette, Idaho

Kansas. Applicants for examination must be graduates of a reputable dental school or must have been in active legal practice in some other State or Territory



for five consecutive years just prior to making application for examination for license to practice dentistry in Kansas.

Applicants for examination should present to the Board through the Secretary, at least five days before the commencement of the examination, a written application on a form furnished by the Board, accompanied with the fee of twenty-five dollars. The applicant must be twenty-one years of age and furnish a certificate of good moral character.

Kansas has reciprocal agreement with Iowa, Nebraska, Minnesota, Michigan, Illinois, New Jersey and expects to enter into agreement with other States in the near future. These agreements do not waive the practical examination.

The written examination will be upon the following subjects, as recommended by the National Association of Dental Examiners: Anatomy, Physiology, Histology, Materia Medica, Therapeutics, Anesthesia, Pathology, Chemistry, Operative Dentistry, Prosthetic Dentistry, Bacteriology, Metallurgy, Oral Surgery, Crown and Bridgework, Hygiene and Orthodontia.

Clinical examination requirements: One gold filling or gold inlay, or both. One amalgam filling. One cement filling. Preparation and filling of the canals of one tooth. Making and adjusting one crown. Cleaning teeth. Making an upper or lower denture.

Each candidate must furnish his own engine and instruments, excepting a vulcanizer. A chair will be provided. All work will be assigned by the Board, and must be done in the presence of the Board.

The law makes no provision for temporary permits to practice.

The Board, at its discretion, may change the requirements, substituting other work.

The applicant must make an average in the examination of at least seventy-five per cent. to obtain a license.

Meetings of the Board will be held in Topeka, Kan., third Tuesday in June, at 9 A. M., at the National Hotel, and continuing until Saturday. Be on time. For further information, write the Secretary.

Board of Dental Examiners: President, G. F. Ambrose, Eldorado; Vice-President, O. H. Simpson, Dodge City; Secretary, F. O. Hetrick, Ottawa.

The fee is \$25. F. O. Hetrick, Secretary, Ottawa, Kan.

Board of Dental Examiners: President, C. H.

West Virginia. Bartlett, Parkersburg; Secretary, J. Fleetwood Butts, Charleston; Attorney, Mason B. Ambler, Parkersburg; W. A. Williams, Huntington; Fred. R. Stathers, Clarksburg; John W. Storer, Wheeling. Board meets second Wednesday in June in Wheeling. Anyone is admitted to examination. Our law permits interchange of license, but up to the present time we have not made any arrangements with any boards. Examination fee, \$25.

They examine in the following branches: Anatomy, Physiology, Histology, Chemistry, Pathology, Bacteriology, Materia Medica and Therapeutics, Metallurgy, Porcelain and Gold Inlays, Oral Surgery, Operative Dentistry, Prosthetic Dentistry, Crown and Bridgework.

J. Fleetwood Butts, Secretary, Charleston, W. Va.



Dominion of Canada.

Dental Association of the Province of Alberta.

Alberta. Board of Directors: Dr. A. D. Callum, President, Calgary; Dr. J. S. Stewart, Vice-President, Lethbridge; Dr. H. F. Whittaker, Secretary-Treasurer and Registrar, Edmonton; Dr. W. A. Hicks, Calgary; Dr. A. E. Auger, Lacombe.

The Directors meet second Monday in January and July of each year for examination and other business. For further particulars, address Dr. H. F. Whittaker, Secretary-Registrar, Edmonton, Canada.

The above association has control of the issuance of licenses to practice dentistry. From the wording of the dental law of Alberta, we may infer that the diploma of a graduate from a "recognized" dental college may be registered and a license issued without examination, at the discretion of the Directors.

A. IRWIN.

British Columbia. Requirements for registration as a member of the College of Dental Surgeons of British Columbia: A certificate of matriculation in the Faculty of Arts at a Canadian university or its equivalent; a diploma of graduation from some dental college recognized by the American Association of Dental Faculties, and also examination on the following subjects, both oral and written, viz.:

Examinations: Chemistry, Materia Medica and Therapeutics, Histology, Bacteriology, Pathology, Anesthesia, Operative Dentistry, Orthodontia, Oral Surgery, Prosthetic Dentistry, Metallurgy, Crown and Bridgework, Anatomy, Physiology and Hygiene.

No interchange of license. The examinations are held alternately in Victoria and Vancouver, beginning on the third Monday of June in Victoria, and on the third Monday of November in Vancouver, and shall be concluded in six days or less.

Council of the College of Dental Surgeons of British Columbia: F. P. Smith, D.D.S., New Westminster, B. C., President, examines in Histology, Bacteriology, Pathology and Anesthesia; R. Ford Verrinder, M.D., D.D.S., Registrar-Treasurer, Victoria, B. C., Prosthetic Dentistry, Metallurgy and Crown and Bridgework; K. C. MacDonald, D.D.S., Vernon, B. C., examines in Chemistry, Materia Medica and Therapeutics; J. M. McLaren, L.D.S., Vancouver, B. C., examines in Operative Dentistry, Orthodontia and Oral Surgery; W. R. Spencer, D.D.S., Vancouver, B. C., examines in Anatomy, Physiology and Hygiene.

Examination fee is \$25. Registration, if successful, \$10. No special examination granted to practitioners already in practice. R. Ford Verrinder, M.D., D.D.S., Registrar-Treasurer, Southeast corner Douglas and Fort, Victoria, B. C.

New Brunswick. The granting of licenses is vested in the Council of Dental Surgeons of New Brunswick. Registrar, F. A. Godsoe, St. John.

Section 23 of the New Brunswick Dental Law contains the following provision:

"No person shall be entitled to be registered under this act unless he shall satisfy the Registrar by proper evidence. First, that he has



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fulfilled all the requirements for graduation in any one of the colleges or dental schools in the United States of America, recognized by the National Association of Dental Faculties or in any other college or dental school recognized by the Council."

25. No person shall be entitled to be registered as provided for by the New Brunswick Dental Act, and acts in amendment thereof, unless he shall, at or before making application; or when an examination is necessary, before such examination, pay to the Registrar the sum of \$20, and shall satisfy the Registrar:

(1) That he is of the full age of twenty-one years.

(2) That he has given three-months' notice in writing of his intention to make application for registry.

(3) That he has resided continuously within the Province during such period of three months (but the attendance of a resident of this Province who is practicing his study of dentistry abroad at any dental college or school of good standing, approved of by the National Association of Dental Faculties, and requiring for graduation an attendance of at least three school years of nine months each, or four school years of seven months each, shall not, for the purpose of this section, be deemed a resident out of the Province).

(4) Either:

(a) That he has fulfilled all requirements for graduation in some dental college or school as aforesaid, and received a degree therefrom, and has passed an examination before said Board of Examiners in subjects prescribed by the Council of the said New Brunswick Dental Society; or

(b) That he was practicing dentistry in this Province prior to the 23d day of April, A. D. 1890, and has since that time (except while he may have been attending such dental college or school as aforesaid) continued regularly to practice as a dentist or dental surgeon in this Province; or

(c) That he had been registered or admitted or licensed to practice as a dentist or dental surgeon in any other Province of Canada in which the standard of admission is equal to that required for admission in this Province, and in which persons registered under this act are, by the laws of that Province, permitted to be registered or admitted or licensed to practice there; provided that a certificate from the Dominion Dental Council shall, if the said Council of the New Brunswick Dental Society think proper to receive the same, be evidence of such registration, license or admission in such other Province, and the equality of such standard.

Provincial Dental Board of Nova Scotia. Dr.

Nova Scotia. H. Woodbury, President, Halifax, N. S.; Dr. M. P. Harrington, Bridgewater, N. S.; Dr. A. C. Harding, Yarmouth, N. S.; Dr. M. K. Langille, Truro, N. S.; Dr. Geo. H. Fluck, Halifax, N. S.; Dr. F. W. Ryan, Halifax, N. S.; Dr. F. Woodbury, Halifax, N. S.; Dr. G. K. Thomson, Secretary-Registrar, Chronicle Building, Halifax, N. S.; Dr. A. W. Cogswell, Treasurer, Halifax, N. S.

Diplomas from the reputable dental colleges are registered. Registration fee, twenty dollars (\$20). Applicant must be twenty-one years old; written application must be forwarded to the Secretary-Registrar



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fourteen days before examination; the license fee of \$20 must be paid before examination; the matriculation certificate is required. Complete information supplied upon addressing Geo. K. Thomson, Secretary, Halifax, N. S.

HALIFAX, Nova Scotia, August 13, 1908.

The requirements for registration for the practice of dentistry in Nova Scotia are:

Preliminary: Matriculation examination by the Dental Board, or Grade XI High School certificate with Latin qualification, or certificate of matriculation with the arts course of a chartered university when not less than 50 per cent. has been attained in each subject.

Professional: 36-months' studentship diploma from a recognized dental college or professional examination by the Dental Board.

GEO. K. THOMSON, Secretary-Registrar.

The Board meets for the examination of students
Manitoba. in the city of Winnipeg on the second Tuesday in January and July. Blank forms of application and all necessary information will be furnished on application with stamp to K. C. Campbell, Secretary.

Dental Association of Manitoba. Board of Directors for term ending January 13, 1912: President, G. F. Bush; Secretary, K. C. Campbell; Treasurer, J. M. Rogers, Boisserain; Registrar, H. A. Croll, Souris; C. H. Walsh, Winnipeg; John Dickson, Brandon.

Examinations. By-Law 8: "All applicants for license other than those possessing certificates of registration from the Dominion Dental Council are required to pass an examination on the following subjects: Histology, Anatomy, Chemistry, Physiology, Materia Medica and Therapeutics, Dental Pathology, Dental Medicine and Surgery, Operative Dentistry, Prosthetic Dentistry and Orthodontia, and to perform operations before examiners, to exhibit specimens of his skill as a mechanical dentist, and, if called upon, to construct practical cases in the presence of an examiner."

Practical requirements: "One porcelain inlay. One gold inlay. One baked porcelain crown. One piece bridgework (not less than four teeth, including abutments). One full or partial denture on vulcanite on articulator. One full or partial denture on metallic base. One or more gold fillings. One or more plastic fillings. Preparation and filling root canals. Diagnosis and treatment of orthodontia cases including appliances. Diagnosis and treatment of pathological conditions of the mouth."

"Registration fee, \$2, payable second Monday in each year. Matriculation fee, \$10. Examination fee \$40. Fees for supplemental examinations, \$5 for each subject.

"No person shall be entitled to be registered under this act unless he shall satisfy the Registrar by proper evidence: First, that he has fulfilled all the requirements for graduation in any one of the colleges or dental schools in the United States of America, recognized by the National Association of Dental Faculties, or in any other college or dental school recognized by the Council."



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Ontario. Board of Examiners, 1910—Presiding Examiner, W. E. Willmott, L.D.S., D.D.S., Toronto; Anatomy, C. B. Shuttleworth, M.D., C.M., Toronto; Physiology and Dental Histology, F. A. Clarkson, M.D., Toronto; Physics, W. A. Black, B.A., L.D.S., Toronto; Chemistry, Theoretical and Practical, W. C. Trotter, B.A., L.D.S., D.D.S., Toronto; Histology, Gordon New, L.D.S., D.D.S., Toronto; Comparative Dental Anatomy, Bacteriology, Wm. Goldie, M.B., Toronto; Surgery, Wm. Revell, L.D.S., D.D.S., Windsor; Medicine, Chas. F. Watt, L.D.S., D.D.S., Sterling; Operative Technic, A. A. Smith, L.D.S., D.D.S., Cornwall; Prosthetic Technic, T. F. Campbell, L.D.S., D.D.S., Galt; Metallurgy, W. E. Cummer, L.D.S., D.D.S., Toronto; Dental Materia Medica, Therapeutics, C. E. Sale, M.D.S., D.D.S., Goderich; Operative Dentistry and Pathology, James McPherson, L.D.S., D.D.S., Paris; Prosthetic Dentistry, A. V. Lester, L.D.S., D.D.S., Hamilton; Orthodontia, C. A. Kennedy, L.D.S., D.D.S., Toronto; Science and Practice of Dentistry, F. T. Coghlan, L.D.S., D.D.S., Guelph; Jurisprudence, History and Ethics of Dentistry, G. Silverthorne, M.B., Toronto; G. M. Hermiston, B.A., L.D.S., D.D.S., Toronto; Practical Dentistry, A. A. Stewart, L.D.S., D.D.S., Toronto.

The written examinations will commence in the City of Toronto on April 20th, 1910, at 9 o'clock in the forenoon. Blank applications and all information can be obtained from the Secretary of the Board of Directors, J. Branston Willmott, 96 College St., Toronto.

Dental Laws of Ontario. The Act respecting dentistry. Revised Statutes of Ontario, 1897, Chapter 178, Excerpts, Section 15: "The Board of Directors of the College (The Royal College of Dental Surgeons of Ontario) shall also have authority to examine candidates and grant certificates of license to practice dental surgery in this Province, R.S.O.C. 150, S. 13."

Prince Edward Island. The Prince Edward Island Dental Act of 1902, incorporates the Dental Society of Prince Edward Island, which controls under the law the practice of dentistry in this province. A register of legal

practitioners must be kept, and no name can be recorded therein without a duly issued certificate issued by the Provincial Secretary. Section 9 of the Act states: "That such certificate shall be issued by the Provincial Secretary upon production to him of diploma or graduation in dental surgery from the Faculty of a Canadian university, having a special dental department, or from any such institution duly authorized by the laws of Great Britain or any of her dependencies, or from any dental college in the United States of America recognized by the National Board of Dental Examiners of the said United States of America."

The fee for this certificate is \$5, and the Council, consisting of five members of the Society annually elected, can establish an annual fee; quite a severe penalty can be meted out to one practicing without obtaining this certificate of registration. "No person can practice dentistry for fee or otherwise in any public street, or common, or in any park, square, or in any other public place, without liability to prosecution and penalty. "Any person holding the degree of B.A. from any University recognized



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by the By-Laws of the Society, or any one holding a second-year certificate from the Prince of Wales College, shall not be required to pass the matriculation examination. Any person in possession of a diploma from a college of dentistry, recognized by the Council, may be registered by the registrar without examination, provided that he possesses the scholastic qualifications required by the By-Laws of the Society, otherwise the applicant must pass the matriculation examination hereinbefore mentioned." This requisite is practically such qualification as would enable one to matriculate at any first-class college.

A candidate for a license to practice dentistry must qualify as follows: He must be of the full age of 21 years; he must forward to the Secretary-Register-Treasurer fourteen days before examination, a written application for examination accompanied by a satisfactory certificate of character; the license fee of \$15 must be paid before the examination takes place; the matriculation certificate must also be produced, or satisfactory evidence given of its having been granted; he must pass an examination before the Board of Examiners on the subjects usually included in a dental examination, and shall perform operations in the mouth and give practical evidence of skill in prosthetic dentistry."

"The examinations shall be written, oral and clinical, and comprise the following subjects: General and Practical Anatomy, Physiology, Chemistry, Operative Dentistry, Dental Therapeutics, and other branches usually required for a dental education. A candidate is required to make 65 per cent. in all papers to pass the matriculation examination. Sixty per cent. passes in the case of a candidate for license to practice dentistry. Any person holding a certificate of qualification from the Dominion Dental Council, recently organized, shall be entitled to be registered and have his name entered in the *Prince Edward Island Dental Register* as a qualified practitioner."

Franklin D. Hale, American Consul.

Examinations in April and October. Fee for
Quebec. license, \$60. "In the case of applicants for the
license who have successfully passed the D.D.S. ex-
aminations of the universities, the Board may waive further ex-
amination."—Board of Dental Examiners.

Dental Laws of Quebec. Examinations and Indentures. Section 1.—The matriculation examination as required by the Board of Governors must be passed before the applicant for the license can be indentured and registered as a dental student.

Bachelors of a recognized British or Canadian university are exempt from the matriculation examination. Applicants for matriculation must be 17 years of age and must present a certificate that they are persons of integrity and good morals. Candidates wishing to take the matriculation examination must make application in person to the Secretary of the Board at least five days before the examination, accompanied with the Treasurer's receipt.

Sec. 2. The fee for matriculation shall be (\$20) twenty dollars, ten dollars of which shall be refunded to unsuccessful candidates.

Sec. 3. The fee for registration as a dental student shall be five dollars (\$5).

Sec. 4. The Secretary will supply the only forms of indenture



recognized by the Board. They may be altered in the margin to suit any private arrangement between preceptor and student, not inconsistent with the Act of Incorporation or these By-Laws.

Sec. 13. The fee to be paid for the certificate of license shall be \$60, and the candidates who fail to pass the final will be refunded \$30.

Sec. 14. The examinations under Article 4081, Act of Incorporation, will comprise: Prosthetic Dentistry in Metals, Vulcanite, etc., Theory and Practice (two subjects); Dental Metallurgy; Crown and Bridgework, Theory and Practice (two subjects); Dental Pathology, Therapeutics and Materia Medica (two subjects); Operative Dentistry, Theory and Practice (two subjects); Irregularities and Dental Surgery (two subjects).

In the case of applicants for the license who have successfully passed the D.D.S. examinations of the universities, the Board may waive further examination on the recommendation of its assessors.

Province of Saskatchewan. Requirements: Examinations only. Any recognized college D.D.S. or L.D.S. Examinations are held at Regina, Sask., during the months of January and July, second Monday. Interchanges are made with Dominion Dental Council. Certificate is recognized without examination. Subjects of examination, all recognized dental subjects.

Council of Dental Surgeons: President, W. D. Cowan, Regina, all dental subjects recognized; Vice-President, L. D. Keown, Moosomin; Registrar-Treasurer, P. F. Size, Moosejaw.

(Signed) P. F. SIZE, Registrar.

YUKON TERRITORY, July 20, 1908.

Dawson. All persons not holding diplomas from Dental Colleges in Canada, Great Britain, or in any of the dependencies of Great Britain, must pass an examination before a Dental Board appointed by the Commissioner of the Yukon Territory. Therefore, diplomas held by citizens or subjects of a foreign country are not accepted.

G. H. COLE, American Consul.

Yukon. "Every candidate shall produce a diploma of graduation from a dental college or satisfactory evidence of having served an apprenticeship as provided for in this ordinance, and pass an examination in the following subjects: Anatomy, Physiology, Chemistry, Histology, Materia Medica, General and Dental Pathology, Therapeutics, Metallurgy, Operative and Prosthetic Dentistry, Oral Surgery, and such other subjects as are presented by such board from time to time and approved by the Commissioner."

Yukon Dental Board: President, C. H. Wells, Dawson; Secretary-Treasurer, A. J. Gillis, Dawson.

New Foundland Board of Dental Examiners.

Dental.—Dr. A. B. Lehr, President, 203 Water St., St. John; Dr. T. P. Smith, Registrar, 203 Water St., St. John; Dr. T. E. Bullard, St. John.



Medical.—Dr. N. S. Frazier, St. John; Dr. H. Cowperthwaite, St. John; Dr. Scully, St. John; Dr. Duncan, St. John.

Sec. 3. "The Board of Examiners shall meet once every year on the first Tuesday in July, in the city of St. John, at a time and place appointed by the Board."

Sec. 8. "The Board recognizes no colleges. The applicant must pass an examination before he is entitled to practice in this colony."

Requirements: Written notice to the Registrar thirty days before the date of the examination accompanied with the regular fee for the examination, \$50. Other fees, \$10 for registration. Fee for special examination, \$100. Half the usual fee for second examination, after six months, for those who fail the first time.

"The subjects the applicant is to be examined upon are the following: Prosthetic and Operative Dentistry, Metallurgy, Crown and Bridgework, Dental Pathology and Therapeutics, Materia Medica, Anesthetics, Chemistry, Oral Surgery, Anatomy, Physiology. The applicant shall also be required to make a practical full upper and lower set of teeth in vulcanite, and a partial set in the same material, and also a Richmond Crown, shell crown, bridge of not less than four teeth, one gold filling, and one case of nerve canal treatment. The applicant is required to furnish his own instruments and appliances. The patients and materials shall be furnished by the Board. The applicant is required to make an average of not less than seventy per cent. to pass."

DR. T. P. SMITH, Registrar.

203 Water St., St. Johns, N. F.

New Dental Law of Virginia.

A BILL

To define Dentistry, to regulate the practice of the same and to provide penalties for the violation of the provisions of this Act.

Recognizing that dentistry is a specialty of medicine and surgery; therefore,

1. *Be it enacted by the General Assembly of Virginia, That*
2 after this act goes into effect, it shall be unlawful for any
3 person to engage in the practice of this specialty for compensa-
4 tion as either assistant or employee, or to receive a license
5 from any commissioner of the revenue to practice this spe-
6 cialty, except he shall have passed the examinations provided
7 for by this Act and received the certificates herein provided,
8 and any person practicing this specialty in this State without
9 having passed examinations and received certificates, as herein
10 provided, shall be deemed guilty of a misdemeanor and, upon
11 conviction thereof, shall be fined not less than one hundred
12 dollars nor more than two hundred and fifty dollars for the first



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13 offense, and for the second offense a fine of not less than five
14 hundred dollars, or imprisonment of from three to twelve
15 months in jail, or both, in the discretion of the jury. Nor shall
16 such person receive any compensation for services rendered by
17 him: provided, that nothing contained in this section shall pre-
18 vent any authorized physician or surgeon from extracting teeth
19 or any other person from extracting teeth for anyone suffering
20 from toothache, or to prevent a bona fide student in regular
21 attendance upon any dental college in this State from practicing
22 dentistry under the direct supervision of one of its teachers in
23 the regular infirmary of such college.

24 On the trial of any person charged with violation of any
25 of the provisions of this Act, it shall be incumbent on the de-
26 fendant to show that he has authority under the law to practice
27 this specialty in this State in order to relieve himself from the
28 penalties herein prescribed.

29 Any commissioner of the revenue who shall, in violation
30 of section one, issue a license to any person not authorized to
31 practice this specialty by this Act, shall, upon conviction there-
32 of, be fined not less than twenty dollars nor more than fifty
33 dollars, and no license issued by any commissioner in violation
34 of this Act shall be valid.

2. From and after January 1, nineteen hundred and four-
3 teen, anno domini, the practice of this specialty in this State
4 shall be a branch or specialty of medicine and surgery, and no
5 person, after this Act goes into effect, shall be given the ex-
6 amination or a certificate required by section four of this Act
7 unless he shall first show to the satisfaction of the examining
8 board provided herein that he has passed the examination pro-
9 vided by law for applicants to practice medicine or surgery,
10 and has received from the Virginia State board of medical ex-
11 aminers the certificate thereof as required by law to be given
12 by them to such applicants.

3. There shall be for the commonwealth of Virginia a
2 board of dental examiners consisting of three practitioners of
3 dentistry of acknowledged ability in the profession, to be ap-
4 pointed by the governor upon recommendation of the Virginia
5 State dental association. Such examiners shall hold office for
6 a term of three years.

7 The board shall continue to be divided into three classes
8 with one member each, one of which classes shall go out of
9 office each succeeding year. And the governor shall annually
10 appoint the successors of each class, as it goes out of office,
11 for the term of three years. He shall make the appointments
12 in each case from two persons who shall be nominated by the
13 Virginia State dental association and reside in different sec-
14 tions of the State.

15 All vacancies for unexpired terms shall be filled by the
16 governor on nominations made by the board. If no such
17 nomination be made, the governor may appoint such persons as
18 he may deem fit.



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4. It shall be the duty of this board to meet annually at a
2 time and place of meeting of the Virginia dental association,
3 or at such time and place as the board may agree upon, to con-
4 duct the examination of the applicants. They may also meet
5 for the same purpose at the call of two members of the board
6 at such time and place as may be designated by them. Thirty-
7 days' notice of the meetings shall be given by advertising in at
8 least two of the daily papers published in the State. It shall be
9 the duty of the said board to grant a certificate to practice this
10 specialty to all applicants who undergo the State examination
11 and receive at least two votes, which certificates shall be
12 signed by the members of the board and be stamped with a
13 suitable seal. It shall further be the duty of such board to
14 register the name and qualification, as far as practicable, of
15 every person to whom such certificate is granted in a book to be
16 kept for such purposes.

5. Any member of the board may, upon presentation by
2 any applicant of the evidence of the necessary qualifications to
3 practice this specialty under this act, grant a temporary license
4 to practice until the next meeting of the board and no longer:
5 provided that no such temporary license shall be granted to any
6 person who has not passed the examination and obtained the
7 certificate of the Virginia State board of medical examiners.

6. The book provided for by section four shall be a book
2 of record, and transcripts from it certified by the officer who
3 has it in keeping, with the seal of the board affixed, shall be
4 evidence in any court of the State.

7. Every person practicing this specialty in the common-
2 wealth of Virginia at the time of the passage of this Act shall
3 annually register his name and post-office with the board of
4 examiners before renewing his license, and it shall be the duty
5 of the board to issue to each person so registered a certificate of
6 registration stamped with the seal of the board and signed by
7 its secretary. Such person so registered may continue such
8 practice without incurring any of the liabilities imposed by this
9 chapter by annually causing his name and residence or place of
10 business to be registered by such board, who shall keep a book
11 for that purpose. Such registration may be made by furnishing
12 proof of the fact of being then so engaged in the manner
13 prescribed by law. All persons holding a certificate of ability
14 from said board shall annually register in like manner. A cer-
15 tified list of the persons registered from each city or county
16 shall be furnished the clerk thereof, except that in the city of
17 Richmond such list shall be furnished the clerk of the Chancery
18 Court of said city, and each name on such list shall be at once
19 recorded by such clerk in a book to be kept for that purpose,
20 for which he shall receive a fee of fifty cents for each cer-
21 tificate of the person so recorded, to be paid by said board.
22 Every person who prior to the passage of this act was duly
23 authorized by said board to practice this specialty in this State,



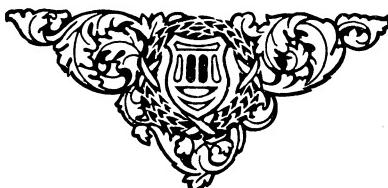
ITEMS OF INTEREST

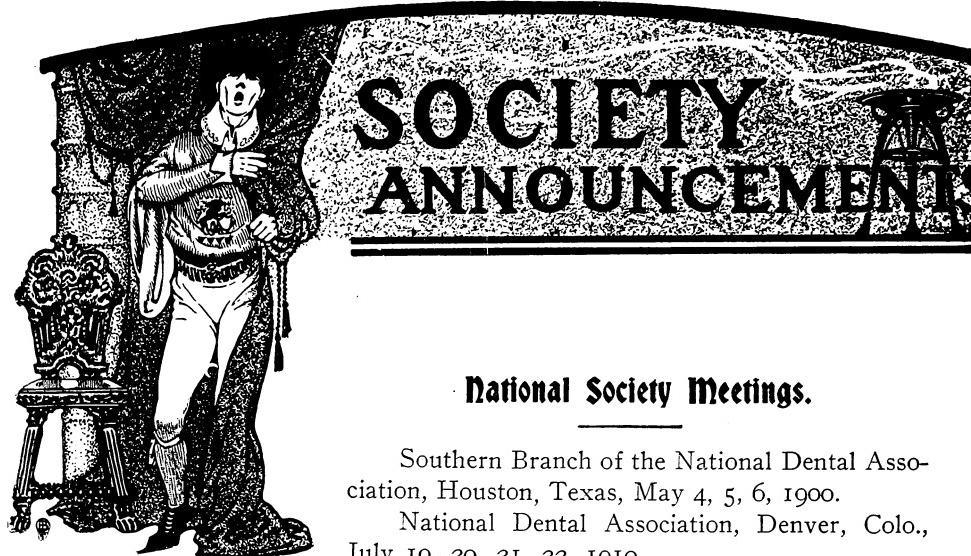
24 and whose certificate is duly registered and recorded as herein
25 prescribed, shall be allowed to continue to so practice. But no
26 license to practice this specialty shall be issued by any com-
27 missioner of the revenue to any person whose name is not so
28 recorded in the clerk's office of the city or county as herein
29 prescribed, and any person who shall engage in the practice of
30 this specialty and fail to register with the board as herein
31 prescribed, shall, after ninety-days' notice in writing from said
32 board of such neglect, be liable to the penalties prescribed in
33 this Act.

8. Fees from applicants and registration.—Said board shall
2 charge each person who appears before them for examination a
3 fee of two dollars for each examination, and shall charge for
4 each person registering one dollar. From the funds received all
5 proper and reasonable expenses of the board and each of its
6 members, incurred in carrying out and maintaining and en-
7 forcing the provisions of this chapter, must be paid. No part of
8 such expense shall be paid out of the State treasury. Any ex-
9 cess of receipts over disbursements shall be paid by the board
10 to meet future expenses of the board and members. The sec-
11 retary of the board shall have custody of its funds and may be
12 required to give bond in such terms as the board may direct.
13 An itemized report of the proceedings of the board, containing
14 an account of all moneys received and disbursed, pursuant to
15 this chapter, shall be made to the governor on the first day of
16 February of each year.

9. This Act shall be in force from and after the first day
2 of January, nineteen hundred and fourteen, anno domini.

10. All Acts or parts of Acts inconsistent with the pro-
2 visions of this Act are hereby repealed.





National Society Meetings.

Southern Branch of the National Dental Association, Houston, Texas, May 4, 5, 6, 1900.

National Dental Association, Denver, Colo., July 19, 20, 21, 22, 1910.

Dental Examiners, Denver, Colo., July 25, 1910.
American Society of Orthodontists, Denver, Colo., July 13, 14, 15, 1910.

State Society Meetings.

Alabama Dental Association, Mobile, Ala., May 10, 13, 1910.

California State Dental Association, San Francisco, Cal., June 22, 23, 24, 25, 1910.

Connecticut State Dental Association, New Haven, Conn., April 19, 20, 1910.

Illinois State Dental Society, Springfield, Ill., May 17, 18, 19, 20, 1910.

Indiana State Dental Association, Indianapolis, Ind., May 17, 18, 19, 1910.

Iowa State Dental Society, Des Moines, Ia., May 3, 4, 5, 1910.

Maine Dental Society, Rangeley, Me., June 22, 23, 24, 1910.

Massachusetts Dental Society, Springfield, Mass., June 14, 15, 16, 1910.

Mississippi Dental Association, Jackson, Miss., May 24, 25, 26, 1910.

Missouri State Dental Association, St. Louis, Mo., May 24-27, 1910.

Montana State Dental Society, Great Falls, Mont., May 6, 7, 1910.

Nebraska State Dental Society, Omaha, Neb., May 17, 18, 19, 1910.



- New Jersey State Dental Society, Asbury Park, N. J., July 20, 21, 22, 23, 1910.
- New York State Dental Society, Albany, N. Y., May 5, 6, 7, 1910.
- Oregon State Dental Association, Portland, Ore., June 30, July 1 and 2, 1910.
- Pennsylvania State Dental Society, Harrisburg, June 28, 29, 30, 1910.
- Kansas State Dental Association, Topeka, Kansas, May 17, 18, 19, 1910.
- Kentucky State Dental Association, Louisville, Ky., May 26, 27, 28, 1910.
- Louisiana State Dental Society, New Orleans, La., May 9, 10, 11, 1910.
- South Carolina State Dental Association, Glenn Springs, S. C., June 28 to July 1, 1910.
- Texas State Dental Association, Houston, Texas, May 3, 1910.
- Vermont and New Hampshire Dental Societies, Rutland, Vt., May 17, 18, 19, 20, 1910.
- Virginia State Dental Association, Staunton, Va., July 20, 21, 22, 1910.
- Wisconsin State Dental Society, Ashland, Wis., July 12, 13, 14, 15, 1910.
- West Virginia State Dental Society, Parkersburg, W. Va., Oct. 12, 13, 14, 1910.

Canadian and Ontario Dental Associations.

The bi-annual meeting of the National Dental Association of Canada will be held in Toronto, May 31, June 1, 2 and 3, 1910. Papers and clinics. We invite our American brethren and offer them all the privileges of the convention. Delightful temperature in June. Toronto is three hours from Buffalo, four from Muskoka or Georgian Bay, one night from the famous Cobalt and six hours from the Thousand Islands of the St. Lawrence. Come and join us. Single fare rates upon certificate plan over all the Trunk Line territory.

GEORGE W. GRIEVE,
Secretary Executive Committee.

2 Bloor Street, East, Toronto, Canada.



Delta Sigma Delta Fraternity.

The twenty-sixth annual meeting of the Supreme Chapter of Delta Sigma Delta Fraternity will convene at the Hotel Savoy, Denver, Colorado, Monday, July 18, at 10 A. M.

R. HAMILL D. SWING, Supreme Scribe.

The Dental Hygiene Council of New York City.

A dental hygiene conference and exhibit will be held at the Metropolitan Building, New York City, May 12 to the 18th inclusive, under the auspices of The Dental Hygiene Council of New York City, with the cooperation of the Children's Aid Society, the Association for Improving the Condition of the Poor, and the Charity Organization Society. The exhibit will be open every day, including Sunday, May 15.

Arrangements are being made for the holding of a stereopticon lecture on dental hygiene every afternoon of the week at 4 o'clock, and twice on Saturday for school children.

The conference will be held evenings, and will be addressed by well-known speakers such as Woods Hutchinson, C. Ward Crampton, J. J. Cronin, S. Josephine Baker, Jane Robbins, Roy Smith Wallace, Wm. H. Allen and others.

The exhibit and all meetings are open to the public. It is hoped that every dentist in the vicinity of New York will try to visit the exhibit and be present at as many of the evening meetings as possible, also that they will urge such attendance upon their patients.

Programmes may be had later upon application.

ARTHUR H. MERRITT,
59 West 46th Street. Chairman of Committee.

North Dakota Dental Association.

The annual meeting of the North Dakota Dental Association will be held in Fargo May 10th and 11th, 1910.

This promises to be a great meeting. An unusually interesting and profitable program is being arranged for this year and a cordial invitation is extended to all ethical members of the profession.

F. A. BRICKER, Secretary.
61 Broadway, Fargo, N. D.



New York State Dental Society.

The forty-second annual meeting of the Dental Society of the State of New York will be held in Albany, Thursday, Friday and Saturday, May 5, 6 and 7, 1910. Sessions will be held in Odd Fellows' Hall, and will convene promptly at 2 P. M., Thursday, May 5.

There will be no evening session on Friday, May 6.

All day Saturday will be devoted to clinics, when all that is latest and best will be shown. A large exhibit also is assured.

Special rates have been secured at the various hotels. These rates will be quoted in the programme when issued.

Special railroad rate of one and three-fifths fare has been arranged with the Trunk Line Association. Ask for a certificate, not a receipt, when you purchase your ticket. Without it you can not have the benefit of the reduced rate on the return trip.

Reports of all officers and committees must be in the hands of the Executive Council by 12 o'clock Friday, May 6, in order to receive consideration.

Exhibitors desiring space will please apply to Dr. O. J. Gross, Schenectady, N. Y. Fraternally yours,

B. C. NASH, President.

ELLISON HILLYER, Secretary.

Brooklyn, April 5, 1910.

Indiana State Dental Association.

The programme for the fifty-second annual meeting of the Indiana State Dental Association promises to be an unusually interesting and profitable one. Every effort has been put forth to secure the very best talent in the profession for the essays and clinics. Among the essayists are Drs. R. Ottolengui, New York City; J. H. Prothero, Chicago; E. C. Mills, Columbus, Ohio; J. C. Carmichael, Milwaukee, Wis.; George W. Clapp, New York City, and others from our own State.

Dr. W. E. Kennedy, supervisor of clinics, has secured over fifty clinicians, and a new feature this year will be a clinic each afternoon of the session.

Please notice that the meeting this year will be held on May 17, 18 and 19, 1910. Mark off these dates now.

OTTO U. KING, Secretary.

Huntington, Ind.



Arkansas State Dental Association.

The next meeting of the Arkansas State Dental Association will be held in Little Rock, June 8, 9, 12, 1910. I am authorized to announce the meeting of the board of examiners June 6 and 7, in Little Rock. In making my appointment of committees, I have endeavored to select men who will go to the work with a determination to succeed. I have endeavored to make this our banner meeting, and see no reason why it should fail if we will all do our duties. Several of the most prominent professional instructors, representing three other States, have promised to be in attendance. The committees are as follows:

1. Executive Committee.—Dr. P. A. Skeen, Texarkana; Dr. O. W. Huff, Hot Springs; Dr. T. W. Clark, Fayetteville. 2. Committee on Arrangements.—Dr. J. T. Newman, Dr. J. E. Hancock, Dr. J. D. Lord, all of Little Rock. 3 Membership Committee.—Dr. F. C. Wilson, Russellville; Dr. R. L. Rogers, Gravette; Dr. T. M. Wyatt, Bentonville. 4. Reception and Entertainment Committee.—Drs. J. M. Pickard, J. E. Taylor and J. W. Markwell, all of Little Rock. 5. Clinic and Essay Committee.—Drs. J. E. Whitmore, of Little Rock; S. S. Johnson, of Jonesboro; J. B. Reed, Texarkana. 6. Transportation Committee.—Drs. J. D. Jordan, Little Rock; J. D. Dickson, Little Rock; H. J. Green, Paragould. 7. Legislative Committee.—Drs. Ed. L. Watson, Camden; R. E. Pickens, Bentonville; J. S. Stillwell, Searcy. 8. Statistics Committee.—Drs. W. F. Jeffet, Helena; F. A. Peak, Hot Springs; W. E. Williams, Mena. 9. Necrology Committee (Standing).—Drs. T. N. Milum, Little Rock; L. G. Roberts, Eureka Springs; S. L. Linsey, Mena. 10. Program and Printing Committee.—Drs. J. M. Sternberg; A. G. Ragland, Ft. Smith; L. K. Charles, Eureka Springs.

J. E. ANDREWS, President.

Missouri State Dental Association.

The forty-fifth meeting of the Missouri State Dental Association will be held in St. Louis, May 23, 24, 25 and 26, 1910. This, the "Reorganization," meeting promises to be the greatest meeting in the history of this association. Drs. G. V. Black and J. V. Conzett will be the special guests of the society.

All ethical members of the profession are invited.

F. W. PATTERSON, Corresponding Secretary.



Southern Wisconsin Dental Association.

The sixteenth annual meeting of the Southern Wisconsin Dental Association will be held at Janesville, Wis., June 2 and 3, 1910.

C. W. Colver, Secretary.

Clinton, Wis.

Georgia State Dental Society.

The forty-fourth annual meeting of the Georgia State Dental Society will be held in Atlanta, Ga., June 14, 15 and 16, 1910.

DELOS L. HILL, Secretary.

Atlanta, Ga.

WALTER C. MILLER, President.

Augusta, Ga.

Florida State Dental Society.

The Florida State Dental Society will have its next meeting at St. Augustine, June 23, 24, and 25, 1910.

Tampa, Fla.

W. A. DEAN, Cor. Secretary.

Maine Dental Society.

The forty-fifth annual meeting of the Maine Dental Society will be held at the Rangeley Lake House, Rangeley, Maine, June 23, 24, 25, 1910.

I. E. PENDLETON, Secretary.

Lewiston, Me.

Tennessee State Dental Association.

The Tennessee State Dental Association beg to announce that they will hold their forty-third annual meeting May 17, 18 and 19, 1910, at Nashville, Tenn., and invite all ethical practitioners to attend.

J. L. MANIRE, Recording Secretary.

Memphis, Tenn.



Michigan State Dental Society.

The next annual meeting of the Michigan State Dental Society will be held in Detroit, June 13, 14 and 15, 1910.

DON M. GRAHAM, Secretary.

602 Gas Office Bldg., Detroit, Mich.

Southern Wisconsin Dental Association.

The sixteenth annual meeting of the Southern Wisconsin Dental Association will be held at Janesville, Wis., June 2 and 3.

Clinton, Wis.

C. W. COLLVER, Secretary.

South Carolina State Dental Association.

The South Carolina State Dental Association will convene at Glenn Springs, S. C., June 28 and be in session until July 1.

W. P. McMEEKIN, Cor. Secretary.

Indiana State Board of Dental Examiners.

The next meeting of the Indiana State Board of Dental Examiners will be held in the Capitol, Indianapolis, beginning Monday, June 13, and continuing four days. All applicants for registration in the State will be examined at this time.

No other meeting will be held until January, 1911.

For further information, apply to the Secretary,

F. R. HENSHAW, Secretary.

507-8 Pythian Bldg., Indianapolis, Ind.

Arkansas State Board of Dental Examiners.

The next meeting of the Arkansas State Board of Dental Examiners will be held June 6 and 7, in Little Rock.

All applicants are required to pass an examination, making a general average of 75 per cent. With or without diploma.

The examination covers all branches taught in the dental schools. The examination is theoretical only. No temporary license; no special examination; fee, \$15.00.

A. T. McMILLIN, Secretary.

Little Rock, Ark.



Minnesota State Board of Dental Examiners.

The next regular meeting of the Minnesota State Board of Dental Examiners will be held at the Dental Department of the State University in Minneapolis on June 6, 7, 8 and 9, 1910.

All applications must be in the hands of the secretary ten days before. All applicants must be graduates and present their diploma. Those having practiced in any of the following States for five years or more will be exempt from the theoretical examination: Iowa, Indiana, Michigan, Nebraska, Wisconsin or Montana. Minnesota dentists are admitted to those States on same conditions.

For blanks and further information, apply to the secretary.

Lake City, Minn.

DR. GEO. S. TODD, Secretary.

Virginia State Board of Dental Examiners.

The regular annual meeting of the Virginia State Board of Dental Examiners will be held in Richmond, Va., the second Tuesday in June, 1910.

For further information, address

Fredericksburg, Va.

DR. J. P. STIFF, Secretary.

Ohio State Dental Board.

The regular spring meeting of the Ohio State Dental Board will be held in Columbus on June 21-24, inclusive. All persons desiring to secure license at this time should address the secretary for blank application and return same, together with the fee of twenty-five dollars (\$25) not later than June 11.

For further information, address

Columbus, O.

L. L. YONKER, Secretary.

Iowa Board of Dental Examiners.

The Iowa State Board of Dental Examiners will hold a meeting for the examination of candidates for license to practice dentistry in Iowa, beginning June 6, 1910, at 9 A. M., at Iowa City.

For blanks and other information, write

Le Mars, Iowa.

E. D. BROWER, Secretary.



Rhode Island Board of Registration in Dentistry.

The Rhode Island Board of Registration in Dentistry will meet for the examination of candidates at the State House, Providence, R. I., Tuesday, Wednesday and Thursday, June 28, 29 and 30, 1910. Application blanks and particulars may be obtained from

H. L. GRANT, Secretary.

1025 Banigan Building, 10 Weybosset Street, Providence, R. I.

Connecticut State Dental Commissioners.

The Dental Commissioners of the State of Connecticut hereby give notice that they will meet at Hartford on Thursday, Friday and Saturday, June 16th, 17th and 18th, 1910, to examine applicants for license to practice dentistry. Application blanks, rules, etc., will be forwarded by the recorder upon request.

By order of the Commission,

GILBERT M. GRISWOLD, M.D.S., Recorder.

783 Main St., Hartford, Conn.

Illinois State Board of Dental Examiners.

The semi-annual meeting of the Illinois State Board of Dental Examiners for the examination of applicants for a license to practice dentistry in the State of Illinois will be held at the Northwestern University Dental School, corner Lake and Dearborn Sts., beginning Monday, June 13, 1910, at 9 A. M. The following preliminary qualifications shall be required of candidates to entitle them to examination by this board for a license to practice dentistry in the State of Illinois: Graduates of a reputable dental or medical school or college, or dental department of a reputable university, who enter the school or college as freshmen on or after the school year 1906-7, must have a minimum preliminary education of not less than graduation from an accredited high-school or a certificate from the State Superintendent of Public Instruction, equivalent officer or deputy, acting within his proper or legal jurisdiction, showing that the applicant had an education equal to that obtained in an accredited high-school; which certificate shall be accepted in lieu of a high-school diploma. Candidates will be furnished with proper blanks and such other information as is necessary on application to the secretary. All applications must be filed with the secretary



five (5) days prior to date of examination. The examination fee is twenty dollars (\$20), with an additional fee of five dollars (\$5) for a license. Address all communications to

T. A. BROADBENT, Secretary.

705 Venetian Bldg., Chicago.

First and Second Districts Dental Society of Louisiana.

At the last meeting of the First and Second Districts Dental Society of Louisiana, the following officers were elected to serve through the ensuing year: President, Dr. E. J. Zeidler, Vice-President, Dr. S. S. Grosjean; Treasurer, Dr. W. C. Richardson; Secretary, Dr. G. N. Weiss. Dr. L. D. Archinard was elected to replace Dr. S. S. Grosjean as member of the Executive Committee.

Suitable resolutions were drawn up and inserted on a separate page of the minutes on the death of Dr. J. J. Archinard, A.M., M:D., an honorary member of this Society.

G. N. WEISS, Secretary.

New Orleans, La.

American Dental Society of Europe.

At the thirty-seventh annual meeting of the American Dental Society of Europe, held at Paris, France, March 25, 26 and 28, 1910, the following officers were elected for the ensuing year: President, Dr. W. M. Cooper, Frankfurt, A. M., Germany; vice-president, Dr. F. F. Robinson, Paris, France; secretary, Dr. T. A. Patterson, Geneva, Switzerland; treasurer, Dr. E. Frank Day, London, England; microscopist, Dr. C. F. Bodecker, Berlin, Germany.

The next meeting of the society will be held in Dresden the first week in August, 1911.

T. G. PATTERSON, Secretary.

2 Quai des Eaux-Vives, Geneva, Switzerland.

